

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: LUMARK

Report Number: P1449860

Luminaire Tested: **TWC150\_T2\_90W\_3000K**

Issue Date: 5/19/2026

**Test Information**

Test Method: LM-79-08  
Report Number: P1449860  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( )  
Test Lab: INNOVATION CENTER  
Issue Date: 5/19/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: TWC150\_T2\_90W\_3000K  
Description: Tapered Wall Cutoff Wall Mount Luminaire at, T2 distribution, 90W  
3000K settings  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 13935 lumens  
Efficiency: N/A  
Efficacy: 158.4 lumens/watt  
Luminous Opening: Rectangular (W 1.33' x L: 0.42' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B3 - U0 - G3

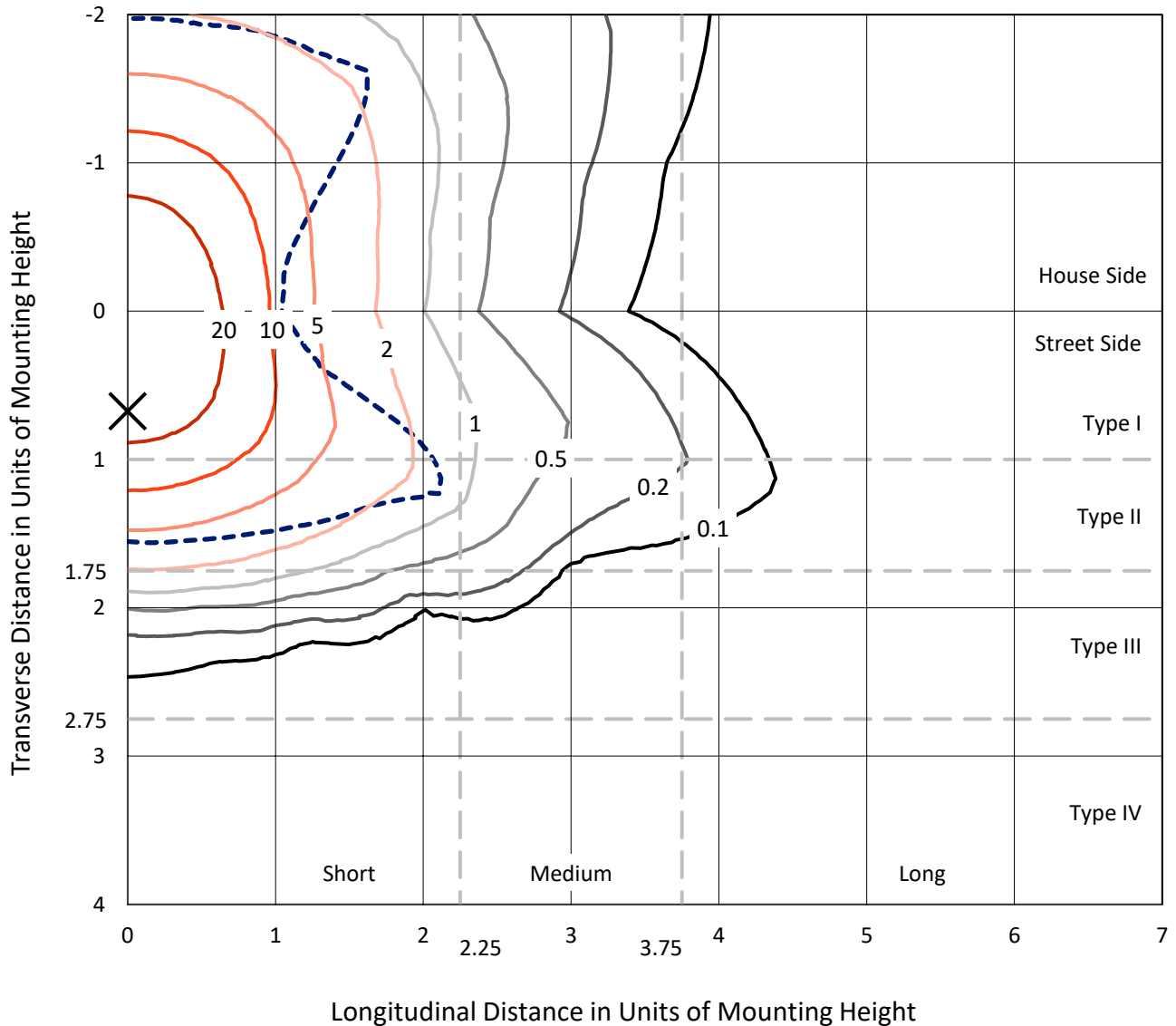
Input Watts (W): 88  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P1449860  
 CATALOG NUMBER: TWC150\_T2\_90W\_3000K

### Iso-Footcandle Lines of Horizontal Illumination

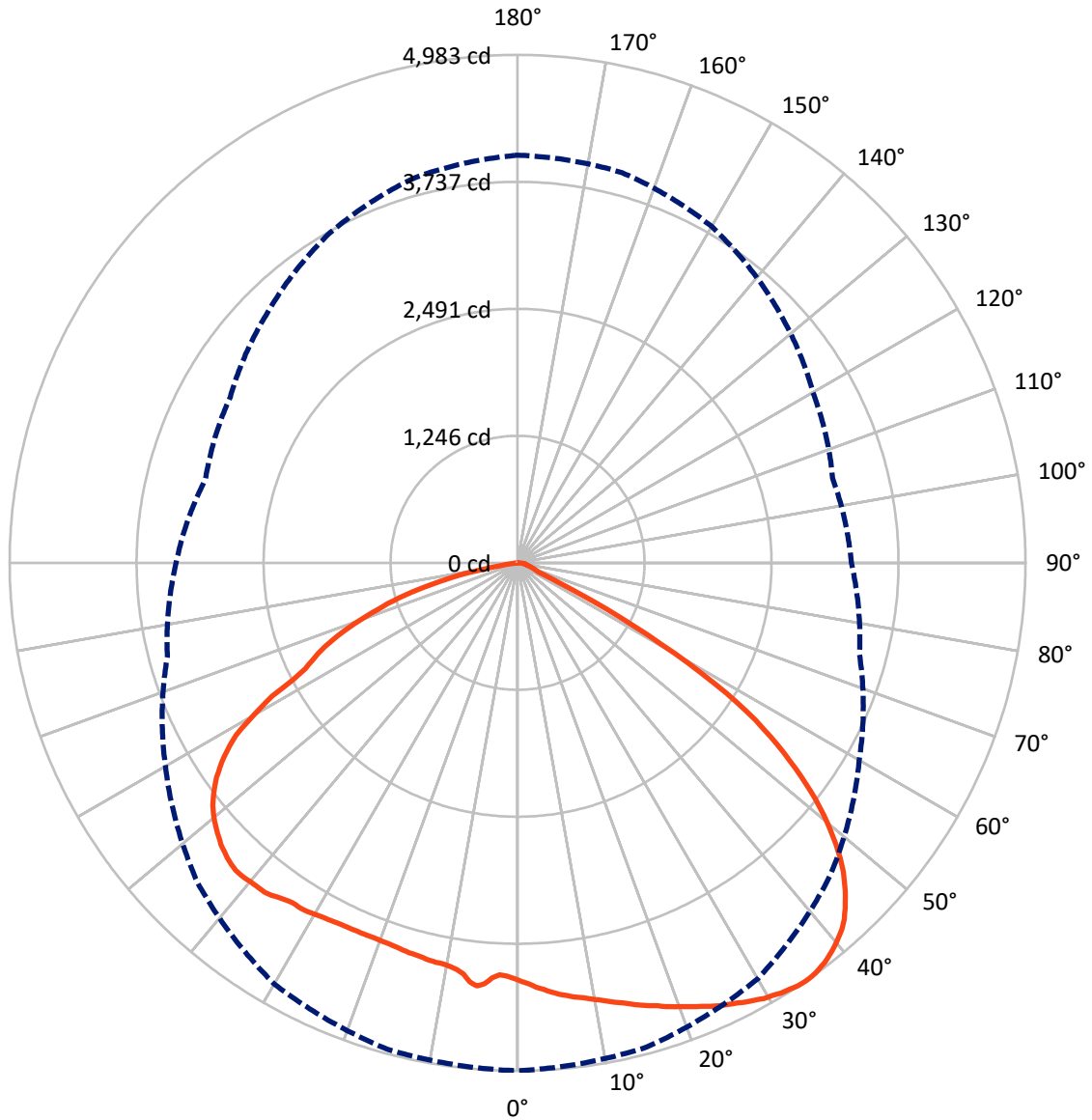
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 42 fc  
 Type II - Short - N/A

REPORT NUMBER: P1449860  
CATALOG NUMBER: TWC150\_T2\_90W\_3000K

### Luminous Intensity Polar Plot



— Vertical Plane Through 0-Deg Lateral      - - - Horizontal Cone Through 34-Deg Vertical

REPORT NUMBER: P1449860  
 CATALOG NUMBER: TWC150\_T2\_90W\_3000K

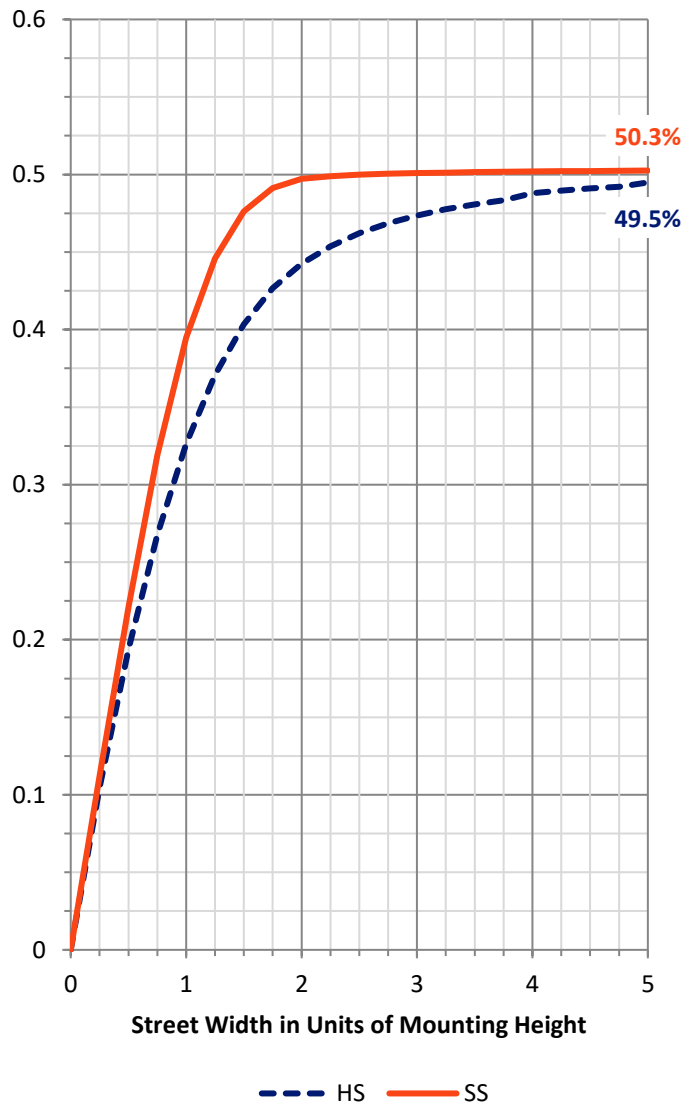
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	6933.3	0.0	6933.3
	% Fixture	49.8	0.0	49.8
<b>Street Side</b>	Lumens	7001.7	0.0	7001.7
	% Fixture	50.2	0.0	50.2
<b>Total</b>	Lumens	13935.0	0.0	13935.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	394.8	2.8
10°-20°	1163.6	8.4
20°-30°	1866.9	13.4
30°-40°	2443.2	17.5
40°-50°	2783.9	20.0
50°-60°	2650.9	19.0
60°-70°	1720.9	12.3
70°-80°	762.8	5.5
80°-90°	148.0	1.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	13935.0	100.0
0°-180°	13935.0	100.0

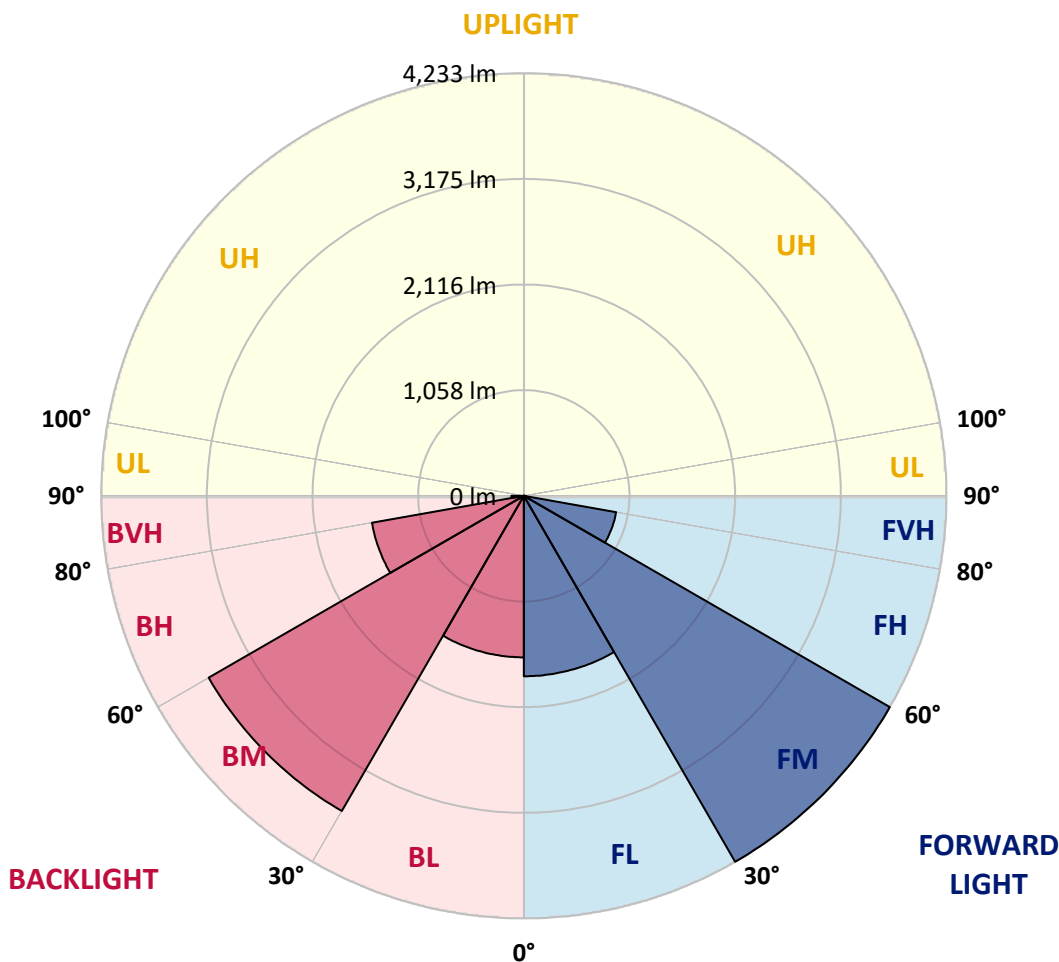


REPORT NUMBER: P1449860  
 CATALOG NUMBER: TWC150\_T2\_90W\_3000K

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1807.2	13.0			
FM (30°-60°)	4233.0	30.4			
FH (60°-80°)	938.8	6.7			G1/1800
FVH (80°-90°)	22.7	0.2			G1/100
BL (0°-30°)	1618.1	11.6	B3/2500		
BM (30°-60°)	3645.0	26.2	B3/5000		
BH (60°-80°)	1544.9	11.1	B3/2500		G3/2500
BVH (80°-90°)	125.3	0.9			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G3**  
 Type II Short





REPORT NUMBER: P1449860

CATALOG NUMBER: TWC150\_T2\_90W\_3000K

**CANDELA DISTRIBUTION (FULL):**

	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°
0°	4103.9	4103.9	4103.9	4103.9	4103.9	4103.9	4103.9	4103.9	4103.9	4103.9	4103.9
1°	4130.1	4127.6	4129.2	4119.1	4111.5	4108.3	4104.7	4097.0	4090.2	4085.0	4081.0
2°	4165.3	4158.6	4151.3	4139.7	4125.6	4112.0	4101.0	4086.9	4075.3	4069.6	4062.3
3°	4193.0	4189.7	4176.6	4158.3	4139.4	4113.1	4096.3	4075.7	4059.3	4048.3	4042.8
4°	4224.6	4215.4	4201.0	4177.8	4146.2	4114.2	4088.1	4063.8	4045.1	4043.7	4059.8
5°	4250.8	4242.1	4222.3	4194.7	4154.9	4115.7	4083.3	4051.7	4034.4	4063.4	4112.9
6°	4273.4	4262.7	4242.7	4209.3	4163.3	4111.1	4066.0	4032.1	4038.4	4111.5	4158.3
7°	4295.5	4281.4	4254.0	4218.9	4166.8	4110.0	4057.5	4020.1	4062.4	4149.3	4164.3
8°	4314.6	4300.8	4272.3	4226.4	4172.5	4106.9	4045.2	4009.9	4094.2	4153.3	4111.2
9°	4338.1	4322.6	4283.4	4239.6	4171.2	4099.3	4029.6	4000.3	4123.9	4121.3	4049.4
10°	4360.6	4339.5	4302.5	4245.5	4174.7	4088.0	4014.4	4005.6	4122.5	4054.5	4021.1
11°	4386.9	4366.5	4314.4	4251.7	4169.6	4082.1	4000.0	4017.5	4104.9	4006.7	4000.5
12°	4414.8	4391.5	4332.1	4262.1	4170.5	4072.6	3976.6	4029.7	4047.7	3982.5	3985.6
13°	4439.4	4414.3	4351.0	4265.8	4169.0	4059.5	3955.7	4038.1	3992.3	3960.8	3975.2
14°	4471.3	4441.6	4370.8	4273.8	4166.0	4045.9	3936.0	4043.4	3949.1	3942.6	3968.3
15°	4503.4	4471.8	4389.5	4282.7	4158.3	4029.3	3913.3	4026.7	3917.3	3927.2	3950.3
16°	4529.8	4497.5	4415.1	4289.6	4159.1	4019.1	3891.1	3997.4	3893.0	3910.5	3939.0
17°	4557.0	4525.0	4432.4	4303.3	4157.2	4005.0	3869.8	3951.4	3864.3	3893.0	3929.2
18°	4590.2	4547.5	4451.6	4313.8	4154.6	3989.2	3851.2	3888.3	3842.7	3871.2	3919.5
19°	4620.3	4577.1	4473.0	4324.8	4147.9	3969.7	3831.4	3831.2	3820.0	3855.0	3903.7
20°	4647.7	4598.3	4487.7	4331.4	4147.8	3955.7	3816.8	3782.7	3792.3	3835.2	3887.9
21°	4679.0	4626.6	4510.0	4337.2	4136.8	3941.3	3808.9	3745.9	3760.7	3813.7	3879.4
22°	4710.7	4650.5	4522.3	4343.8	4126.2	3924.1	3800.2	3709.5	3729.3	3794.8	3869.8
23°	4743.4	4682.7	4538.2	4345.1	4114.2	3899.7	3790.8	3672.9	3702.8	3775.4	3854.0
24°	4774.9	4710.0	4555.2	4349.1	4104.1	3878.3	3776.5	3640.2	3673.2	3757.6	3844.8
25°	4800.7	4735.4	4573.7	4346.6	4088.8	3843.7	3757.9	3607.4	3643.9	3738.3	3840.8
26°	4825.7	4761.4	4590.9	4344.6	4068.3	3810.9	3726.7	3562.6	3608.3	3714.3	3833.4
27°	4856.8	4785.1	4614.6	4348.2	4052.2	3780.4	3688.9	3524.8	3576.4	3695.1	3824.1
28°	4880.8	4806.9	4626.2	4340.9	4029.3	3742.5	3637.0	3480.2	3545.3	3678.6	3821.6
29°	4910.5	4834.3	4643.5	4342.4	4003.4	3706.2	3582.8	3436.7	3516.6	3657.6	3819.7
30°	4926.2	4859.4	4653.4	4338.4	3981.1	3661.0	3515.2	3392.0	3483.0	3639.3	3812.3
31°	4948.8	4875.7	4672.8	4342.9	3954.8	3617.2	3452.1	3347.2	3446.5	3623.0	3811.7
32°	4962.4	4895.2	4682.9	4340.4	3925.7	3572.9	3389.6	3297.8	3415.5	3605.7	3807.7
33°	4977.4	4905.3	4699.3	4337.8	3897.9	3523.0	3328.2	3249.6	3377.7	3589.4	3810.1
34°	4982.9	4916.4	4711.4	4337.3	3870.5	3472.3	3273.8	3199.6	3345.8	3573.8	3809.0
35°	4979.8	4918.7	4723.8	4335.2	3843.4	3423.6	3214.6	3149.7	3305.9	3554.9	3805.3
36°	4964.0	4916.7	4723.6	4327.6	3815.2	3368.0	3154.7	3099.9	3271.3	3543.7	3788.4
37°	4946.9	4900.9	4731.2	4329.4	3787.8	3313.0	3093.2	3048.6	3235.8	3522.8	3786.9
38°	4917.8	4880.0	4725.8	4332.5	3765.2	3261.4	3031.9	2997.8	3203.0	3500.4	3788.1
39°	4882.8	4854.6	4713.1	4331.6	3740.7	3206.3	2968.2	2950.3	3167.9	3472.0	3796.3
40°	4844.6	4819.3	4701.9	4333.6	3718.1	3149.6	2904.4	2902.7	3133.3	3452.4	3805.5
41°	4802.1	4779.7	4678.7	4333.6	3696.9	3098.0	2840.6	2855.2	3096.9	3446.0	3801.9
42°	4743.4	4731.0	4651.1	4331.1	3675.7	3044.0	2778.0	2800.3	3055.9	3435.2	3800.4
43°	4668.3	4674.7	4613.3	4329.0	3658.5	2993.0	2707.9	2745.5	3007.6	3412.9	3799.9
44°	4588.1	4604.5	4570.1	4324.9	3641.5	2944.8	2635.9	2691.5	2973.3	3388.1	3802.4



REPORT NUMBER: P1449860  
 CATALOG NUMBER: TWC150\_T2\_90W\_3000K

**CANDELA DISTRIBUTION (continued):**

	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°
45°	4500.3	4529.7	4524.6	4313.3	3626.4	2898.4	2564.8	2632.8	2939.1	3362.2	3802.2
46°	4406.1	4442.3	4466.0	4298.8	3612.8	2854.2	2496.8	2575.3	2904.9	3354.3	3793.1
47°	4292.4	4346.3	4407.3	4275.5	3604.1	2807.5	2420.7	2517.5	2867.1	3342.6	3772.5
48°	4169.6	4238.4	4329.3	4252.8	3590.8	2754.6	2348.7	2454.6	2822.3	3325.7	3748.3
49°	4038.1	4115.7	4244.3	4213.4	3581.5	2699.0	2272.5	2386.3	2778.2	3304.3	3721.1
50°	3894.9	3976.3	4151.0	4172.5	3575.2	2638.8	2198.3	2312.0	2743.6	3280.8	3689.5
51°	3738.0	3837.7	4045.2	4128.6	3567.4	2577.0	2122.1	2240.0	2706.3	3250.9	3655.3
52°	3572.2	3678.2	3928.6	4079.5	3563.9	2512.3	2043.3	2178.5	2660.6	3224.4	3622.7
53°	3393.0	3512.1	3794.6	4015.3	3555.0	2436.7	1968.0	2120.3	2611.2	3199.8	3585.4
54°	3207.7	3333.1	3642.9	3940.8	3544.2	2371.5	1893.5	2048.9	2559.8	3170.5	3545.1
55°	3011.0	3142.9	3481.6	3852.6	3536.0	2304.6	1812.5	1975.8	2503.3	3137.3	3501.3
56°	2800.0	2941.9	3308.6	3757.5	3521.8	2239.4	1733.1	1908.4	2456.4	3098.9	3453.5
57°	2561.4	2724.0	3118.0	3648.0	3500.4	2176.5	1654.4	1841.6	2402.3	3059.6	3400.8
58°	2274.7	2486.2	2916.6	3515.1	3466.5	2113.9	1572.6	1771.9	2350.9	3019.5	3340.2
59°	1952.2	2204.4	2700.0	3366.7	3428.5	2052.1	1491.3	1696.5	2295.0	2979.1	3268.7
60°	1618.3	1879.9	2464.7	3194.3	3377.9	1990.3	1407.0	1619.4	2237.7	2938.5	3189.1
61°	1303.8	1545.3	2205.5	3001.4	3323.4	1933.0	1326.5	1542.2	2179.3	2897.8	3093.1
62°	989.6	1231.7	1894.0	2774.0	3255.4	1883.3	1251.3	1469.7	2124.4	2842.2	2948.9
63°	675.3	918.3	1569.5	2529.8	3175.4	1838.9	1170.2	1392.6	2073.0	2781.6	2804.8
64°	437.8	604.9	1245.8	2275.6	3079.7	1802.5	1090.6	1320.8	2018.5	2712.8	2657.7
65°	287.7	377.8	922.0	1977.9	2968.5	1777.5	1014.4	1249.9	1962.6	2642.5	2408.0
66°	221.5	248.8	598.2	1647.0	2835.3	1765.9	939.0	1179.2	1902.5	2548.2	2226.7
67°	200.9	195.3	365.6	1307.1	2671.5	1759.6	867.1	1108.4	1843.5	2396.6	2120.3
68°	186.8	177.5	231.5	967.0	2468.9	1756.3	794.6	1040.1	1774.0	2208.7	2031.4
69°	172.9	163.5	181.1	627.0	2241.5	1750.7	724.8	973.4	1705.4	2063.0	1943.9
70°	159.3	150.1	163.0	365.3	1952.1	1749.5	656.8	909.5	1639.7	1971.3	1859.8
71°	146.5	138.8	149.7	215.6	1570.1	1758.6	591.0	844.9	1565.5	1882.4	1782.3
72°	136.3	127.5	136.4	156.4	1162.4	1760.3	531.6	781.6	1447.1	1784.8	1700.9
73°	126.2	116.2	123.1	138.7	754.3	1719.0	472.6	716.4	1335.7	1683.7	1614.6
74°	116.1	106.2	109.8	121.9	346.1	1599.1	416.1	653.2	1262.1	1588.3	1517.8
75°	105.6	95.4	97.2	105.0	192.0	1445.8	363.0	593.8	1200.3	1498.1	1416.4
76°	96.9	85.7	83.0	93.5	161.8	1281.0	309.9	534.7	1132.4	1410.2	1294.3
77°	90.2	78.1	72.1	84.6	133.4	1116.0	257.0	479.1	1065.0	1328.5	1153.6
78°	86.0	71.8	63.1	74.4	105.0	951.1	212.7	411.8	1002.8	1249.6	1026.4
79°	82.5	67.8	56.7	61.8	95.3	725.6	172.9	359.1	936.6	1174.0	908.7
80°	77.9	64.4	51.6	50.3	95.1	548.3	137.1	306.5	871.8	1076.0	817.3
81°	72.7	60.2	47.7	42.7	88.4	383.4	107.2	253.9	809.9	973.4	723.4
82°	66.4	55.4	44.0	37.3	75.7	249.5	81.4	213.1	742.9	868.7	515.6
83°	54.9	48.2	40.2	32.5	62.7	147.0	59.0	174.7	676.3	788.9	307.8
84°	43.4	39.4	34.0	28.3	43.1	109.8	45.1	137.0	584.5	716.6	103.9
85°	31.2	29.2	25.6	24.1	25.4	72.8	31.2	103.6	470.6	572.5	59.8
86°	21.8	22.1	18.6	17.9	16.3	35.9	17.5	72.2	376.6	428.5	16.4
87°	14.8	15.1	12.7	12.3	11.0	19.7	10.0	48.9	282.6	284.4	8.1
88°	8.0	8.1	6.9	6.7	5.8	13.1	4.6	25.6	188.6	140.4	2.8
89°	1.1	1.1	1.0	1.1	1.2	6.8	1.5	2.8	94.6	1.0	0.7



REPORT NUMBER: P1449860  
 CATALOG NUMBER: TWC150\_T2\_90W\_3000K

**CANDELA DISTRIBUTION (continued):**

	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
91°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
94°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
96°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
98°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
99°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
101°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
103°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
104°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
106°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
108°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
109°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
111°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
112°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
113°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
114°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
116°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
118°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
119°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
121°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
123°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
124°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
126°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
128°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
129°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
131°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
133°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
134°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P1449860  
 CATALOG NUMBER: TWC150\_T2\_90W\_3000K

**CANDELA DISTRIBUTION (continued):**

	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
136°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
138°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
139°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
141°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
143°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
144°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
146°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
148°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
149°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
151°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
153°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
154°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
156°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
158°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
159°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
161°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
163°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
164°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
166°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
168°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
169°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
171°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
173°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
174°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
176°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
178°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
179°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P1449860  
CATALOG NUMBER: TWC150\_T2\_90W\_3000K

**CANDELA DISTRIBUTION (continued):**

	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P1449860

CATALOG NUMBER: TWC150\_T2\_90W\_300K

**CANDELA DISTRIBUTION (continued):**

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
0°	4103.9	4103.9	4103.9	4103.9	4103.9	4103.9	4103.9	4103.9	4103.9	4103.9	4103.9
1°	4077.1	4076.8	4080.1	4077.3	4083.5	4088.1	4093.4	4105.3	4111.8	4116.0	4121.4
2°	4052.8	4055.0	4053.6	4056.4	4070.5	4077.5	4087.5	4101.8	4118.8	4128.3	4141.7
3°	4041.1	4045.9	4039.2	4040.1	4046.0	4063.8	4075.0	4096.0	4117.7	4139.7	4164.8
4°	4079.3	4078.4	4065.5	4044.3	4031.3	4045.9	4064.3	4093.4	4126.5	4152.1	4182.8
5°	4140.6	4143.7	4124.5	4090.2	4038.4	4028.8	4052.8	4084.7	4124.5	4165.6	4200.9
6°	4169.8	4170.5	4169.4	4134.1	4071.9	4018.9	4038.4	4075.0	4123.9	4175.0	4214.5
7°	4146.2	4138.3	4150.4	4154.7	4112.6	4022.8	4023.6	4067.5	4124.5	4181.8	4229.2
8°	4073.6	4065.8	4079.6	4127.8	4136.8	4038.6	4006.8	4057.9	4125.5	4186.9	4239.1
9°	4033.8	4033.8	4034.2	4057.2	4130.0	4067.5	3986.5	4041.7	4116.3	4188.7	4249.7
10°	4016.1	4014.9	4013.8	4013.0	4080.1	4087.4	3974.0	4029.4	4113.1	4192.8	4261.3
11°	4001.1	4002.6	3998.5	3992.1	4021.2	4090.6	3962.4	4014.7	4101.5	4190.8	4266.2
12°	3998.2	3999.1	3988.1	3970.4	3979.1	4072.6	3955.7	3993.0	4096.0	4190.7	4277.4
13°	3989.2	3993.2	3983.1	3958.2	3954.6	4028.2	3960.1	3973.1	4086.0	4190.2	4287.9
14°	3979.4	3982.8	3966.6	3948.3	3929.2	3970.6	3970.1	3956.8	4077.5	4190.7	4298.2
15°	3969.7	3972.8	3957.1	3935.0	3906.2	3920.7	3969.2	3939.6	4064.6	4194.7	4312.9
16°	3962.7	3969.5	3951.8	3915.8	3889.4	3882.5	3972.4	3911.6	4052.8	4197.9	4324.5
17°	3956.0	3961.8	3943.0	3904.0	3865.9	3855.2	3956.5	3890.5	4039.2	4196.4	4339.2
18°	3945.0	3950.9	3928.8	3887.7	3842.2	3823.5	3928.8	3864.3	4032.4	4196.4	4354.5
19°	3933.9	3946.9	3921.8	3876.4	3816.5	3794.5	3889.9	3843.9	4019.7	4193.9	4368.0
20°	3931.7	3943.8	3911.1	3857.5	3800.2	3766.5	3837.7	3813.7	4005.9	4192.4	4371.4
21°	3928.3	3939.6	3905.4	3841.3	3779.0	3738.9	3779.0	3789.7	3995.7	4192.8	4381.9
22°	3924.1	3938.7	3901.4	3828.1	3753.6	3705.0	3720.8	3763.7	3976.6	4184.2	4388.9
23°	3924.6	3942.7	3897.2	3817.9	3728.7	3664.1	3671.4	3741.7	3957.9	4178.4	4397.7
24°	3921.0	3942.7	3895.6	3799.3	3704.0	3630.0	3627.7	3718.9	3932.0	4166.5	4405.0
25°	3919.0	3944.3	3894.1	3791.7	3683.6	3600.4	3584.6	3705.9	3904.3	4153.8	4408.1
26°	3924.1	3946.9	3888.3	3779.6	3660.4	3562.5	3543.4	3693.5	3878.3	4139.7	4413.2
27°	3922.6	3949.7	3889.9	3772.2	3637.1	3523.3	3499.8	3675.5	3843.6	4129.6	4416.9
28°	3925.8	3957.4	3889.9	3760.0	3611.3	3483.3	3461.7	3657.7	3808.0	4107.3	4419.6
29°	3934.5	3965.0	3891.6	3746.3	3589.9	3450.5	3419.4	3632.6	3770.6	4091.5	4425.1
30°	3936.2	3973.5	3897.8	3737.6	3565.7	3410.1	3370.7	3592.4	3729.3	4069.2	4433.4
31°	3952.6	3987.0	3900.1	3734.4	3543.0	3374.6	3319.5	3547.0	3685.6	4050.8	4437.2
32°	3958.8	3998.2	3911.1	3724.2	3517.6	3333.4	3272.7	3490.6	3646.1	4033.9	4434.1
33°	3962.4	4001.1	3912.7	3721.5	3488.0	3294.1	3217.7	3422.3	3601.2	4009.9	4443.0
34°	3961.9	3998.6	3910.0	3717.4	3469.2	3254.3	3170.0	3349.4	3556.6	3989.5	4438.8
35°	3962.7	4013.2	3906.0	3710.7	3441.4	3216.5	3117.8	3275.2	3510.0	3968.6	4445.0
36°	3978.5	4032.5	3909.3	3697.5	3418.6	3175.9	3063.2	3199.8	3463.7	3956.3	4448.1
37°	3998.8	4057.3	3925.4	3679.6	3396.1	3135.3	3006.5	3135.3	3417.5	3933.4	4454.6
38°	4013.3	4072.8	3942.1	3675.5	3372.1	3092.6	2953.8	3067.0	3373.5	3922.3	4454.7
39°	4019.8	4075.3	3953.1	3672.9	3342.1	3047.7	2901.2	3002.3	3327.5	3905.5	4456.3
40°	4023.1	4079.2	3950.9	3666.7	3308.5	3006.6	2848.5	2934.3	3278.1	3890.2	4452.7
41°	4028.8	4085.7	3949.5	3660.7	3282.3	2966.8	2783.6	2871.3	3229.7	3872.7	4457.4
42°	4034.4	4093.4	3962.5	3651.2	3259.2	2927.0	2720.4	2805.4	3181.5	3863.6	4447.6
43°	4040.4	4092.5	3965.0	3650.8	3241.6	2887.1	2654.1	2735.7	3135.3	3858.0	4439.9
44°	4031.8	4078.8	3964.4	3650.6	3222.2	2835.0	2590.3	2666.1	3083.8	3855.2	4422.1



REPORT NUMBER: P1449860

CATALOG NUMBER: TWC150\_T2\_90W\_300K

**CANDELA DISTRIBUTION (continued):**

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
45°	4015.3	4061.2	3951.1	3646.6	3187.7	2778.8	2526.2	2595.6	3032.3	3851.6	4400.1
46°	3990.9	4035.6	3928.5	3640.5	3157.6	2723.5	2462.4	2524.8	2985.6	3845.0	4370.6
47°	3965.8	4012.2	3901.4	3627.7	3130.7	2670.4	2399.2	2450.0	2935.7	3837.9	4334.2
48°	3937.9	3977.2	3874.9	3610.7	3106.8	2628.7	2334.3	2378.9	2890.3	3834.1	4289.2
49°	3904.8	3944.4	3842.0	3587.6	3077.6	2577.9	2268.6	2301.0	2842.9	3828.4	4246.0
50°	3869.3	3907.4	3812.3	3561.4	3046.0	2525.4	2200.8	2223.9	2793.8	3820.2	4193.0
51°	3829.8	3865.0	3777.1	3524.5	3009.7	2474.3	2131.9	2149.8	2749.4	3810.9	4132.1
52°	3790.9	3820.5	3736.6	3493.6	2976.6	2424.4	2056.6	2073.2	2703.2	3800.2	4053.0
53°	3738.3	3759.2	3692.3	3455.6	2950.6	2379.5	1980.1	1997.0	2661.4	3781.8	3969.2
54°	3682.0	3696.6	3646.1	3418.8	2924.7	2326.3	1903.6	1917.4	2625.0	3754.5	3869.0
55°	3617.8	3626.0	3584.9	3377.1	2898.8	2269.9	1835.3	1836.7	2590.5	3722.3	3758.4
56°	3544.4	3543.0	3518.8	3336.2	2864.1	2204.7	1762.8	1754.9	2563.7	3673.5	3635.3
57°	3460.4	3455.2	3441.2	3285.6	2826.0	2142.0	1685.8	1672.8	2545.7	3626.3	3487.7
58°	3366.6	3350.1	3354.5	3238.6	2790.3	2076.4	1608.9	1590.7	2523.6	3568.4	3329.7
59°	3265.7	3241.7	3260.9	3180.7	2756.2	2015.3	1534.5	1510.4	2505.6	3500.2	3145.1
60°	3155.0	3074.2	3157.9	3120.6	2710.8	1952.8	1460.8	1432.0	2483.1	3423.7	2943.9
61°	2954.7	2906.6	2982.2	3046.3	2663.7	1892.9	1387.6	1353.9	2461.5	3329.9	2723.8
62°	2754.6	2738.5	2806.5	2949.0	2614.0	1828.9	1311.6	1275.9	2452.3	3225.9	2482.4
63°	2554.5	2477.7	2630.3	2851.8	2552.5	1761.4	1232.2	1195.6	2442.4	3094.6	2219.5
64°	2350.7	2324.2	2389.6	2752.5	2492.7	1699.6	1153.4	1114.8	2437.8	2947.6	1929.1
65°	2241.7	2235.0	2246.6	2560.3	2423.8	1635.3	1074.9	1039.6	2427.2	2772.0	1601.0
66°	2159.5	2151.7	2151.7	2327.8	2353.8	1568.4	999.0	965.4	2421.0	2565.1	1269.7
67°	2077.1	2058.8	2074.9	2164.7	2272.8	1501.7	924.8	891.3	2416.5	2330.3	938.5
68°	1981.3	1951.0	1993.6	2057.7	2172.2	1433.3	851.7	812.3	2389.4	2041.0	607.2
69°	1877.3	1830.6	1899.6	1954.4	2019.9	1362.0	780.3	735.8	2330.3	1704.7	365.0
70°	1768.5	1711.1	1805.7	1857.4	1881.8	1294.1	711.5	661.9	2227.1	1316.0	222.8
71°	1645.4	1575.7	1696.7	1767.6	1798.4	1225.2	648.1	588.8	2077.2	925.8	165.9
72°	1520.2	1452.9	1582.8	1691.9	1728.0	1158.8	589.1	521.1	1936.9	535.5	147.8
73°	1400.6	1338.2	1460.6	1620.9	1644.6	1086.5	528.3	456.4	1822.7	292.8	133.5
74°	1274.7	1210.5	1334.6	1548.2	1563.3	982.0	472.8	398.9	1640.3	173.8	119.4
75°	1150.6	1080.5	1207.4	1472.5	1480.9	896.4	419.5	342.6	1429.9	148.3	105.2
76°	1017.4	933.8	1084.7	1388.7	1398.9	833.3	373.1	291.6	1137.2	124.4	90.1
77°	882.0	793.9	957.5	1282.9	1314.1	772.7	326.8	249.2	841.5	100.6	77.3
78°	758.5	659.3	843.1	1154.3	1223.0	709.2	280.6	213.7	545.9	91.9	65.3
79°	625.1	496.2	723.9	1016.4	1135.0	649.8	241.7	183.7	305.0	87.6	54.5
80°	451.5	333.1	595.4	890.3	1041.7	594.0	198.4	153.0	164.9	80.1	46.3
81°	277.9	171.2	391.9	801.6	940.2	536.8	161.0	124.7	134.0	65.3	41.1
82°	107.9	56.0	189.2	731.5	845.1	480.2	131.1	96.4	104.5	51.8	36.6
83°	78.9	44.2	133.5	513.7	739.1	421.7	102.8	68.1	75.0	37.5	32.6
84°	50.0	32.4	77.7	295.9	658.0	357.7	78.5	48.9	72.5	26.2	28.8
85°	21.3	20.6	22.4	78.4	581.2	293.6	57.2	34.0	63.0	20.4	23.8
86°	13.0	12.2	14.1	43.4	363.6	229.7	41.4	22.0	46.5	16.0	16.4
87°	6.2	6.0	6.5	8.6	148.7	171.3	25.6	14.9	27.6	10.7	10.2
88°	2.3	2.3	2.4	2.5	73.6	114.0	9.8	8.0	18.4	5.3	3.9
89°	0.5	0.5	0.5	0.6	1.0	56.6	1.4	1.0	9.4	1.0	1.1



REPORT NUMBER: P1449860  
 CATALOG NUMBER: TWC150\_T2\_90W\_3000K

**CANDELA DISTRIBUTION (continued):**

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
91°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
94°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
96°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
98°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
99°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
101°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
103°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
104°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
106°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
108°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
109°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
111°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
112°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
113°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
114°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
116°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
118°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
119°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
121°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
123°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
124°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
126°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
128°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
129°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
131°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
133°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
134°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P1449860  
 CATALOG NUMBER: TWC150\_T2\_90W\_3000K

**CANDELA DISTRIBUTION (continued):**

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
136°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
138°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
139°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
141°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
143°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
144°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
146°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
148°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
149°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
151°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
153°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
154°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
156°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
158°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
159°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
161°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
163°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
164°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
166°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
168°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
169°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
171°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
173°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
174°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
176°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
178°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
179°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P1449860  
CATALOG NUMBER: TWC150\_T2\_90W\_3000K

**CANDELA DISTRIBUTION (continued):**

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P1449860  
CATALOG NUMBER: TWC150\_T2\_90W\_3000K

**CANDELA DISTRIBUTION (continued):**

	330°	345°	360°
0°	4103.9	4103.9	4103.9
1°	4127.9	4130.9	4130.1
2°	4153.8	4157.8	4165.3
3°	4176.1	4187.9	4193.0
4°	4204.1	4215.9	4224.6
5°	4225.7	4241.3	4250.8
6°	4244.6	4265.0	4273.4
7°	4262.8	4290.6	4295.5
8°	4281.3	4310.5	4314.6
9°	4297.1	4327.3	4338.1
10°	4311.6	4345.9	4360.6
11°	4329.1	4371.6	4386.9
12°	4347.9	4401.0	4414.8
13°	4371.7	4426.2	4439.4
14°	4392.6	4458.3	4471.3
15°	4416.9	4482.3	4503.4
16°	4439.6	4511.3	4529.8
17°	4458.4	4532.9	4557.0
18°	4479.4	4564.2	4590.2
19°	4500.7	4592.0	4620.3
20°	4522.9	4618.3	4647.7
21°	4546.0	4643.5	4679.0
22°	4563.8	4677.6	4710.7
23°	4580.5	4706.3	4743.4
24°	4606.2	4734.6	4774.9
25°	4623.9	4767.4	4800.7
26°	4646.8	4790.7	4825.7
27°	4667.8	4810.9	4856.8
28°	4685.8	4839.9	4880.8
29°	4697.3	4867.3	4910.5
30°	4721.9	4888.7	4926.2
31°	4737.8	4907.0	4948.8
32°	4752.9	4922.9	4962.4
33°	4767.3	4933.8	4977.4
34°	4771.1	4939.3	4982.9
35°	4784.6	4940.4	4979.8
36°	4789.7	4933.8	4964.0
37°	4782.8	4919.4	4946.9
38°	4778.9	4898.8	4917.8
39°	4764.2	4863.9	4882.8
40°	4741.7	4825.8	4844.6
41°	4709.2	4786.8	4802.1
42°	4675.1	4731.3	4743.4
43°	4632.1	4674.5	4668.3
44°	4583.6	4601.2	4588.1



REPORT NUMBER: P1449860  
 CATALOG NUMBER: TWC150\_T2\_90W\_3000K

**CANDELA DISTRIBUTION (continued):**

	330°	345°	360°
45°	4528.3	4514.2	4500.3
46°	4462.9	4421.9	4406.1
47°	4381.3	4322.2	4292.4
48°	4297.1	4205.4	4169.6
49°	4196.1	4072.6	4038.1
50°	4086.0	3936.0	3894.9
51°	3963.9	3791.5	3738.0
52°	3829.0	3629.1	3572.2
53°	3689.2	3453.6	3393.0
54°	3526.1	3273.3	3207.7
55°	3352.0	3080.8	3011.0
56°	3165.1	2869.9	2800.0
57°	2966.1	2648.6	2561.4
58°	2750.2	2389.9	2274.7
59°	2524.2	2085.6	1952.2
60°	2263.7	1756.2	1618.3
61°	1969.1	1410.1	1303.8
62°	1634.6	1094.3	989.6
63°	1311.9	779.0	675.3
64°	989.3	516.9	437.8
65°	666.8	325.4	287.7
66°	420.5	229.8	221.5
67°	260.4	195.4	200.9
68°	191.5	180.0	186.8
69°	169.1	166.6	172.9
70°	154.6	153.4	159.3
71°	142.4	141.9	146.5
72°	129.6	130.5	136.3
73°	116.8	119.1	126.2
74°	106.8	109.2	116.1
75°	95.1	98.7	105.6
76°	82.3	89.2	96.9
77°	71.6	82.0	90.2
78°	63.9	76.6	86.0
79°	58.1	72.7	82.5
80°	53.7	69.1	77.9
81°	50.0	64.4	72.7
82°	46.0	59.1	66.4
83°	41.4	50.6	54.9
84°	33.3	41.1	43.4
85°	26.2	30.4	31.2
86°	17.0	21.9	21.8
87°	11.7	14.9	14.8
88°	6.4	8.0	8.0
89°	1.1	1.0	1.1



REPORT NUMBER: P1449860  
CATALOG NUMBER: TWC150\_T2\_90W\_3000K

**CANDELA DISTRIBUTION (continued):**

	330°	345°	360°
90°	0.0	0.0	0.0
91°	0.0	0.0	0.0
92°	0.0	0.0	0.0
93°	0.0	0.0	0.0
94°	0.0	0.0	0.0
95°	0.0	0.0	0.0
96°	0.0	0.0	0.0
97°	0.0	0.0	0.0
98°	0.0	0.0	0.0
99°	0.0	0.0	0.0
100°	0.0	0.0	0.0
101°	0.0	0.0	0.0
102°	0.0	0.0	0.0
103°	0.0	0.0	0.0
104°	0.0	0.0	0.0
105°	0.0	0.0	0.0
106°	0.0	0.0	0.0
107°	0.0	0.0	0.0
108°	0.0	0.0	0.0
109°	0.0	0.0	0.0
110°	0.0	0.0	0.0
111°	0.0	0.0	0.0
112°	0.0	0.0	0.0
113°	0.0	0.0	0.0
114°	0.0	0.0	0.0
115°	0.0	0.0	0.0
116°	0.0	0.0	0.0
117°	0.0	0.0	0.0
118°	0.0	0.0	0.0
119°	0.0	0.0	0.0
120°	0.0	0.0	0.0
121°	0.0	0.0	0.0
122°	0.0	0.0	0.0
123°	0.0	0.0	0.0
124°	0.0	0.0	0.0
125°	0.0	0.0	0.0
126°	0.0	0.0	0.0
127°	0.0	0.0	0.0
128°	0.0	0.0	0.0
129°	0.0	0.0	0.0
130°	0.0	0.0	0.0
131°	0.0	0.0	0.0
132°	0.0	0.0	0.0
133°	0.0	0.0	0.0
134°	0.0	0.0	0.0



REPORT NUMBER: P1449860  
CATALOG NUMBER: TWC150\_T2\_90W\_3000K

**CANDELA DISTRIBUTION (continued):**

	330°	345°	360°
135°	0.0	0.0	0.0
136°	0.0	0.0	0.0
137°	0.0	0.0	0.0
138°	0.0	0.0	0.0
139°	0.0	0.0	0.0
140°	0.0	0.0	0.0
141°	0.0	0.0	0.0
142°	0.0	0.0	0.0
143°	0.0	0.0	0.0
144°	0.0	0.0	0.0
145°	0.0	0.0	0.0
146°	0.0	0.0	0.0
147°	0.0	0.0	0.0
148°	0.0	0.0	0.0
149°	0.0	0.0	0.0
150°	0.0	0.0	0.0
151°	0.0	0.0	0.0
152°	0.0	0.0	0.0
153°	0.0	0.0	0.0
154°	0.0	0.0	0.0
155°	0.0	0.0	0.0
156°	0.0	0.0	0.0
157°	0.0	0.0	0.0
158°	0.0	0.0	0.0
159°	0.0	0.0	0.0
160°	0.0	0.0	0.0
161°	0.0	0.0	0.0
162°	0.0	0.0	0.0
163°	0.0	0.0	0.0
164°	0.0	0.0	0.0
165°	0.0	0.0	0.0
166°	0.0	0.0	0.0
167°	0.0	0.0	0.0
168°	0.0	0.0	0.0
169°	0.0	0.0	0.0
170°	0.0	0.0	0.0
171°	0.0	0.0	0.0
172°	0.0	0.0	0.0
173°	0.0	0.0	0.0
174°	0.0	0.0	0.0
175°	0.0	0.0	0.0
176°	0.0	0.0	0.0
177°	0.0	0.0	0.0
178°	0.0	0.0	0.0
179°	0.0	0.0	0.0



REPORT NUMBER: P1449860  
CATALOG NUMBER: TWC150\_T2\_90W\_3000K

**CANDELA DISTRIBUTION (continued):**

	330°	345°	360°
180°	0.0	0.0	0.0

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Lumark

Report Number: SP1-2601-659-1

Test Date: 02/12/2026

Luminaire Tested: MWP2460W34VDDKYYAD-T4-24W-3000K

Data in this report applies to families of products including ;MWP2460W34VDDKYYAD

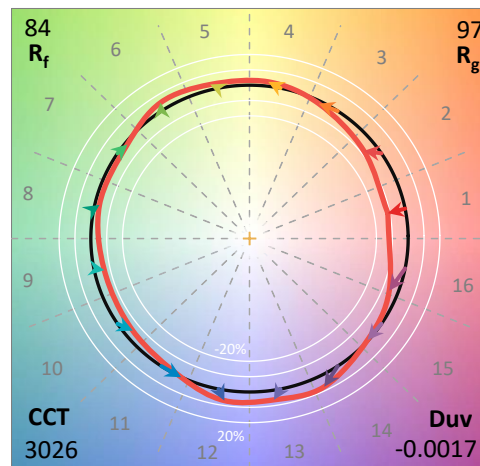
**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2601-659-1  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 02/16/2026  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: Lumark  
 Catalog Number: **MWP2460W34VDDKYYAD-T4-24W-3000K**  
 Description: Mester Wedge, at T4 beam setting, 24W output, 3000K

**Spectral Parameters**

CCT (K): 3026  
 CIE u': 0.2503  
 CIE v': 0.5184  
 Duv: -0.0017  
 CIE x: 0.4326  
 CIE y: 0.3983  
 CIE z: 0.1691  
 Peak Wavelength (nm): 604  
 Dominant Wavelength (nm): 583  
 Purity: 49.3886  
 Rf: 84  
 Rg: 97.4

CRI (Ra):	82.7		
R1:	81.4	R9:	7.5
R2:	90.7	R10:	78.8
R3:	96.3	R11:	80.8
R4:	81.1	R12:	70.7
R5:	81.6	R13:	83.7
R6:	88.6	R14:	98.6
R7:	82.6	R15:	74.2
R8:	59.3		



**Test Conditions**

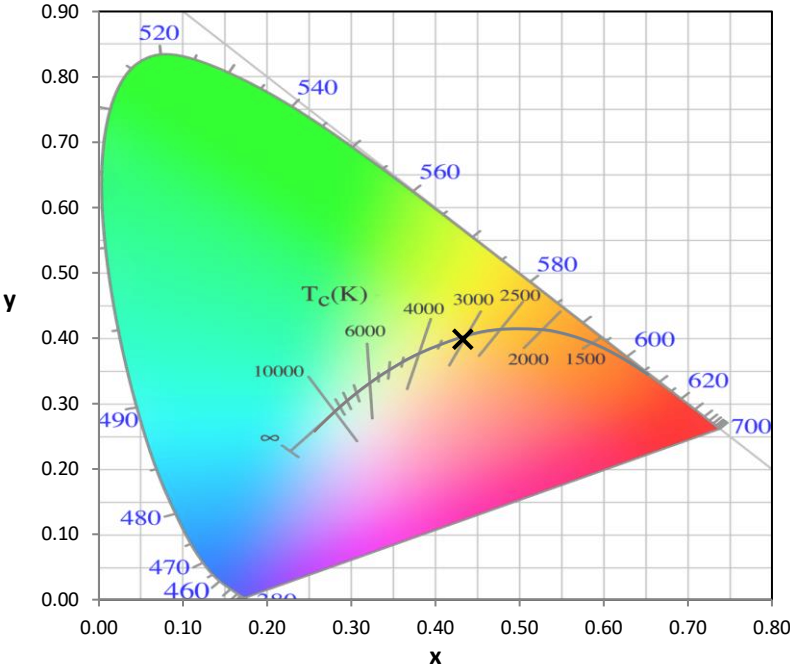
Stabilization Time: 64M  
 Operation Time: 2H 4M  
 Sphere Temperature (°C): 24.8

REPORT NUMBER: SP1-2601-659-1

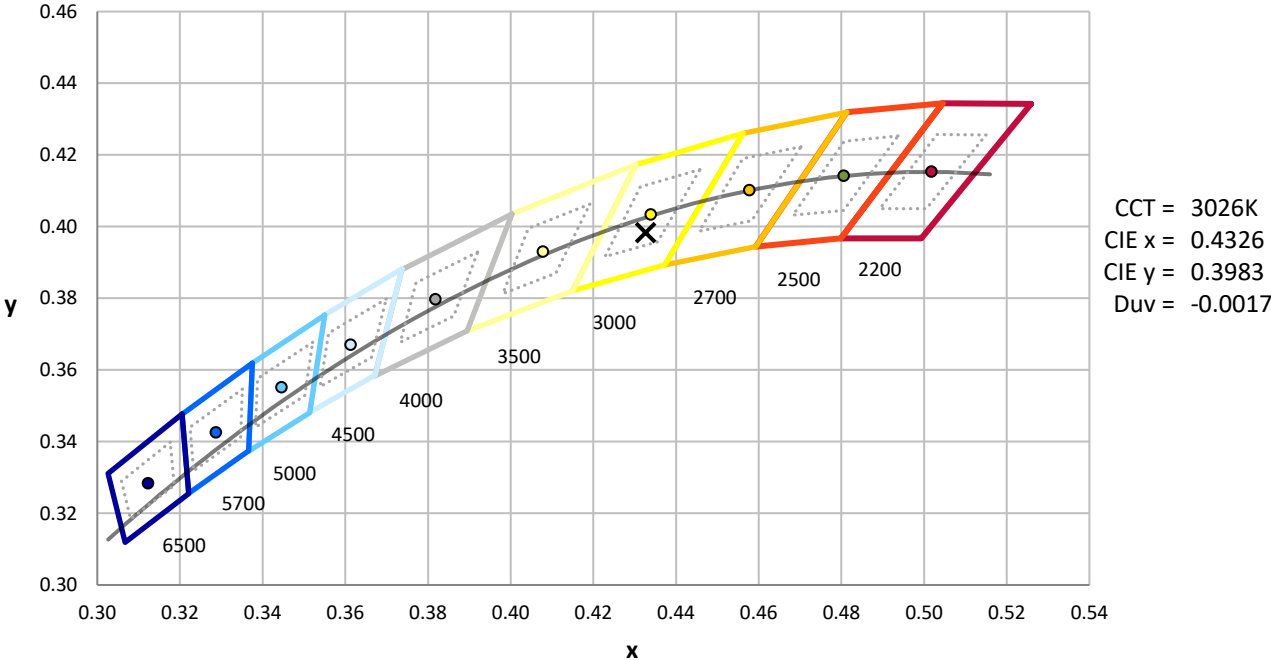
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208	10/21/2025	10/21/2026
Sphere Thermometer	ONSET IN0085	10/21/2025	10/21/2026
Room Thermometer	ONSET IN0046	10/21/2025	10/21/2026

REPORT NUMBER: SP1-2601-659-1

CIE 1931 Chromaticity Diagram



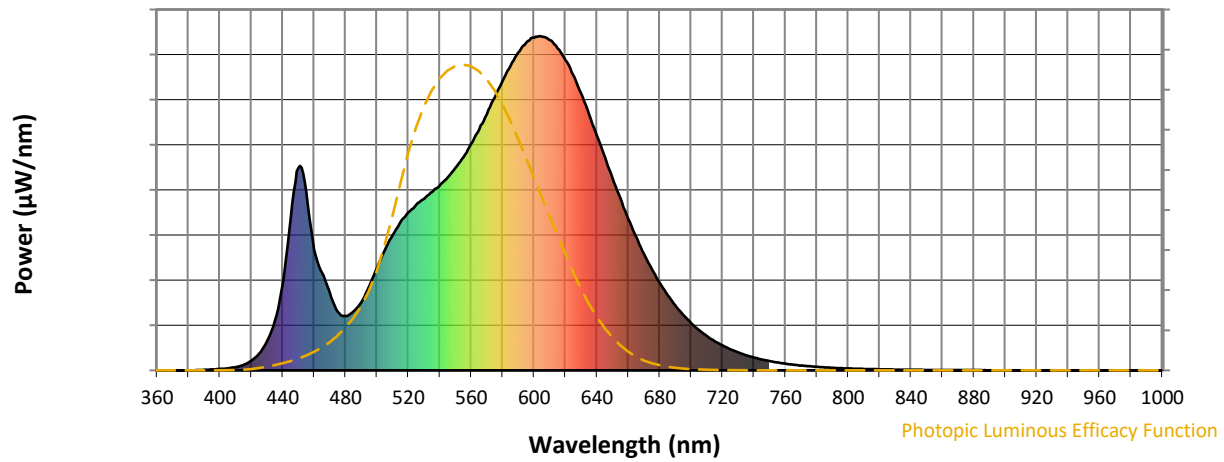
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2601-659-1

**Photopic Flux vs. Wavelength**

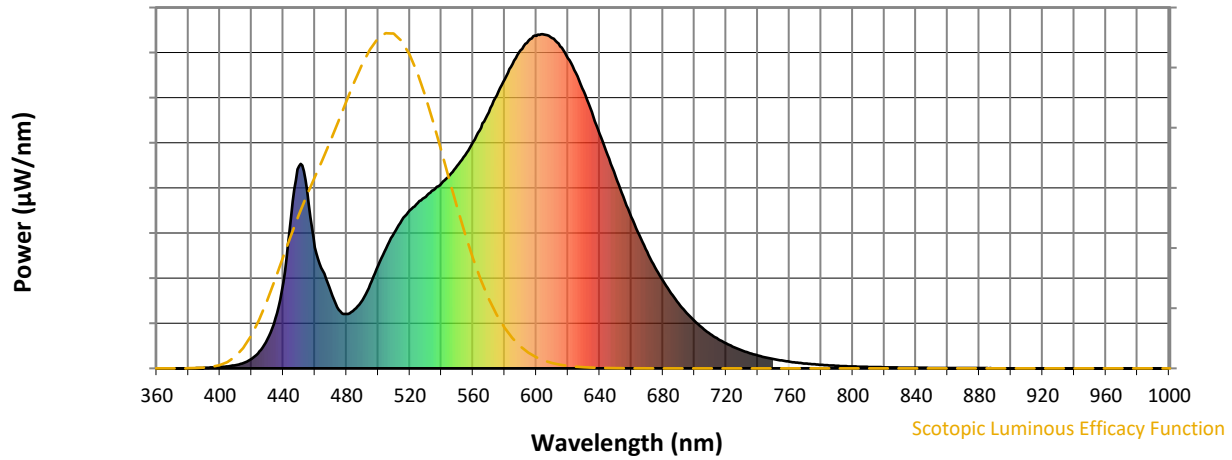


**Photopic Lumens: NR**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)
360	0	NR	490	204	NR	620	928	NR	750	28	NR	880	1	NR
365	0	NR	495	251	NR	625	884	NR	755	24	NR	885	1	NR
370	0	NR	500	307	NR	630	828	NR	760	20	NR	890	0	NR
375	0	NR	505	360	NR	635	767	NR	765	17	NR	895	0	NR
380	0	NR	510	405	NR	640	702	NR	770	14	NR	900	0	NR
385	1	NR	515	444	NR	645	639	NR	775	12	NR	905	0	NR
390	2	NR	520	473	NR	650	574	NR	780	11	NR	910	0	NR
395	3	NR	525	495	NR	655	514	NR	785	9	NR	915	0	NR
400	5	NR	530	513	NR	660	453	NR	790	8	NR	920	0	NR
405	6	NR	535	534	NR	665	399	NR	795	7	NR	925	0	NR
410	10	NR	540	554	NR	670	348	NR	800	6	NR	930	0	NR
415	17	NR	545	577	NR	675	303	NR	805	5	NR	935	0	NR
420	29	NR	550	606	NR	680	263	NR	810	4	NR	940	0	NR
425	51	NR	555	638	NR	685	226	NR	815	4	NR	945	0	NR
430	87	NR	560	678	NR	690	194	NR	820	3	NR	950	0	NR
435	150	NR	565	720	NR	695	166	NR	825	3	NR	955	0	NR
440	258	NR	570	767	NR	700	142	NR	830	2	NR	960	0	NR
445	454	NR	575	817	NR	705	121	NR	835	2	NR	965	0	NR
450	605	NR	580	866	NR	710	103	NR	840	2	NR	970	0	NR
455	533	NR	585	911	NR	715	87	NR	845	2	NR	975	0	NR
460	362	NR	590	952	NR	720	74	NR	850	1	NR	980	0	NR
465	293	NR	595	981	NR	725	63	NR	855	1	NR	985	0	NR
470	231	NR	600	995	NR	730	54	NR	860	1	NR	990	0	NR
475	176	NR	605	999	NR	735	46	NR	865	1	NR	995	0	NR
480	163	NR	610	989	NR	740	38	NR	870	1	NR	1000	0	NR
485	176	NR	615	964	NR	745	33	NR	875	1	NR			

REPORT NUMBER: SP1-2601-659-1

**Scotopic Flux vs. Wavelength**



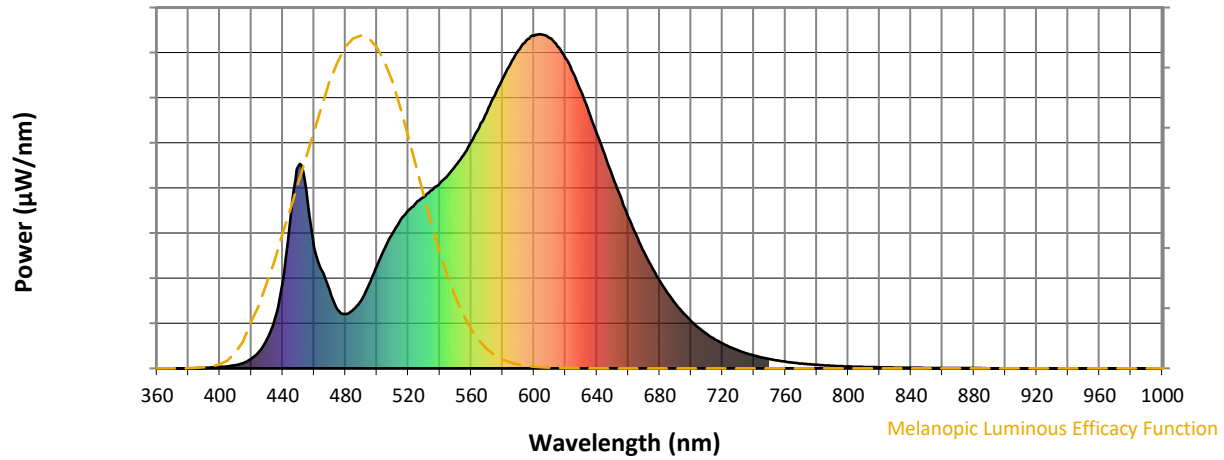
**Scotopic Lumens: NR**

**S/P: 1.35**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)
360	0	NR	490	204	NR	620	928	NR	750	28	NR	880	1	NR
365	0	NR	495	251	NR	625	884	NR	755	24	NR	885	1	NR
370	0	NR	500	307	NR	630	828	NR	760	20	NR	890	0	NR
375	0	NR	505	360	NR	635	767	NR	765	17	NR	895	0	NR
380	0	NR	510	405	NR	640	702	NR	770	14	NR	900	0	NR
385	1	NR	515	444	NR	645	639	NR	775	12	NR	905	0	NR
390	2	NR	520	473	NR	650	574	NR	780	11	NR	910	0	NR
395	3	NR	525	495	NR	655	514	NR	785	9	NR	915	0	NR
400	5	NR	530	513	NR	660	453	NR	790	8	NR	920	0	NR
405	6	NR	535	534	NR	665	399	NR	795	7	NR	925	0	NR
410	10	NR	540	554	NR	670	348	NR	800	6	NR	930	0	NR
415	17	NR	545	577	NR	675	303	NR	805	5	NR	935	0	NR
420	29	NR	550	606	NR	680	263	NR	810	4	NR	940	0	NR
425	51	NR	555	638	NR	685	226	NR	815	4	NR	945	0	NR
430	87	NR	560	678	NR	690	194	NR	820	3	NR	950	0	NR
435	150	NR	565	720	NR	695	166	NR	825	3	NR	955	0	NR
440	258	NR	570	767	NR	700	142	NR	830	2	NR	960	0	NR
445	454	NR	575	817	NR	705	121	NR	835	2	NR	965	0	NR
450	605	NR	580	866	NR	710	103	NR	840	2	NR	970	0	NR
455	533	NR	585	911	NR	715	87	NR	845	2	NR	975	0	NR
460	362	NR	590	952	NR	720	74	NR	850	1	NR	980	0	NR
465	293	NR	595	981	NR	725	63	NR	855	1	NR	985	0	NR
470	231	NR	600	995	NR	730	54	NR	860	1	NR	990	0	NR
475	176	NR	605	999	NR	735	46	NR	865	1	NR	995	0	NR
480	163	NR	610	989	NR	740	38	NR	870	1	NR	1000	0	NR
485	176	NR	615	964	NR	745	33	NR	875	1	NR			

REPORT NUMBER: SP1-2601-659-1

**Melanopic Flux vs. Wavelength**



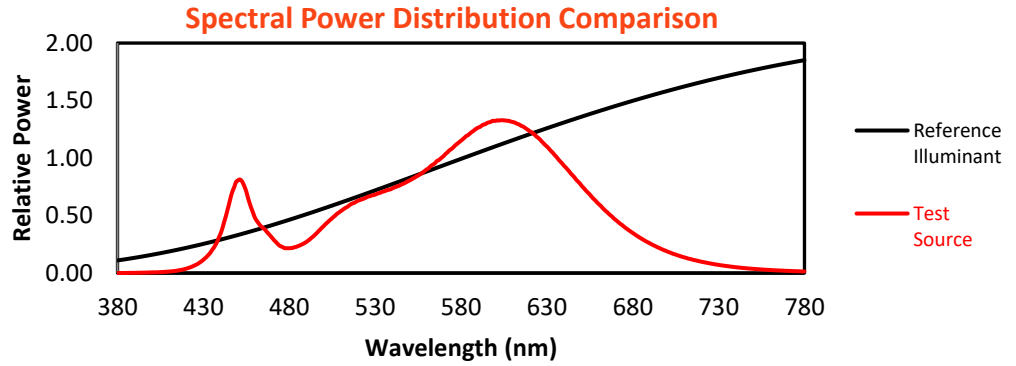
**Melanopic Lumens: NR**

**M/P: 2.61**

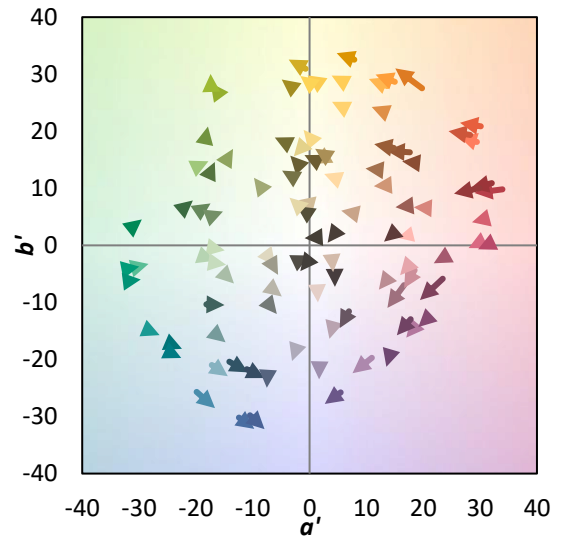
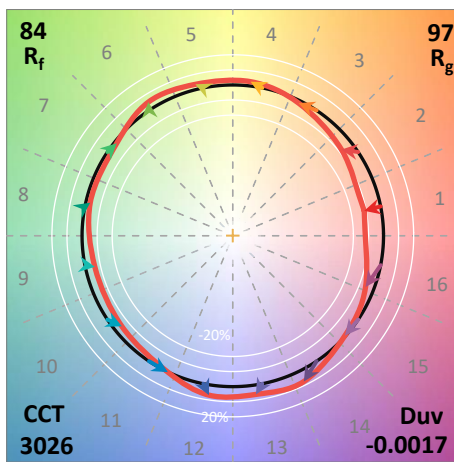
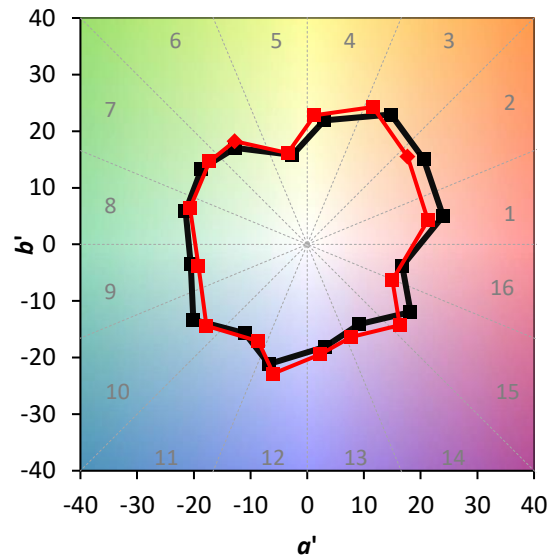
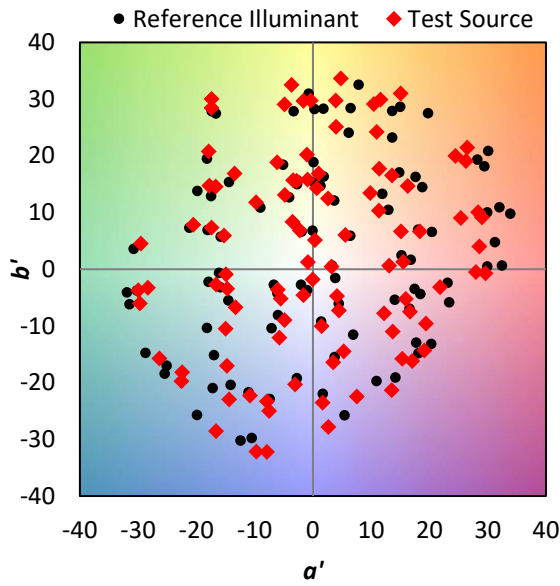
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	204	NR	620	928	NR	750	28	NR	880	1	NR
365	0	NR	495	251	NR	625	884	NR	755	24	NR	885	1	NR
370	0	NR	500	307	NR	630	828	NR	760	20	NR	890	0	NR
375	0	NR	505	360	NR	635	767	NR	765	17	NR	895	0	NR
380	0	NR	510	405	NR	640	702	NR	770	14	NR	900	0	NR
385	1	NR	515	444	NR	645	639	NR	775	12	NR	905	0	NR
390	2	NR	520	473	NR	650	574	NR	780	11	NR	910	0	NR
395	3	NR	525	495	NR	655	514	NR	785	9	NR	915	0	NR
400	5	NR	530	513	NR	660	453	NR	790	8	NR	920	0	NR
405	6	NR	535	534	NR	665	399	NR	795	7	NR	925	0	NR
410	10	NR	540	554	NR	670	348	NR	800	6	NR	930	0	NR
415	17	NR	545	577	NR	675	303	NR	805	5	NR	935	0	NR
420	29	NR	550	606	NR	680	263	NR	810	4	NR	940	0	NR
425	51	NR	555	638	NR	685	226	NR	815	4	NR	945	0	NR
430	87	NR	560	678	NR	690	194	NR	820	3	NR	950	0	NR
435	150	NR	565	720	NR	695	166	NR	825	3	NR	955	0	NR
440	258	NR	570	767	NR	700	142	NR	830	2	NR	960	0	NR
445	454	NR	575	817	NR	705	121	NR	835	2	NR	965	0	NR
450	605	NR	580	866	NR	710	103	NR	840	2	NR	970	0	NR
455	533	NR	585	911	NR	715	87	NR	845	2	NR	975	0	NR
460	362	NR	590	952	NR	720	74	NR	850	1	NR	980	0	NR
465	293	NR	595	981	NR	725	63	NR	855	1	NR	985	0	NR
470	231	NR	600	995	NR	730	54	NR	860	1	NR	990	0	NR
475	176	NR	605	999	NR	735	46	NR	865	1	NR	995	0	NR
480	163	NR	610	989	NR	740	38	NR	870	1	NR	1000	0	NR
485	176	NR	615	964	NR	745	33	NR	875	1	NR			

**Summary**

$R_f = 84$   
 $R_g = 97.4$   
 $CIE R_a = 82.7$   
 $R_9 = 7.5$

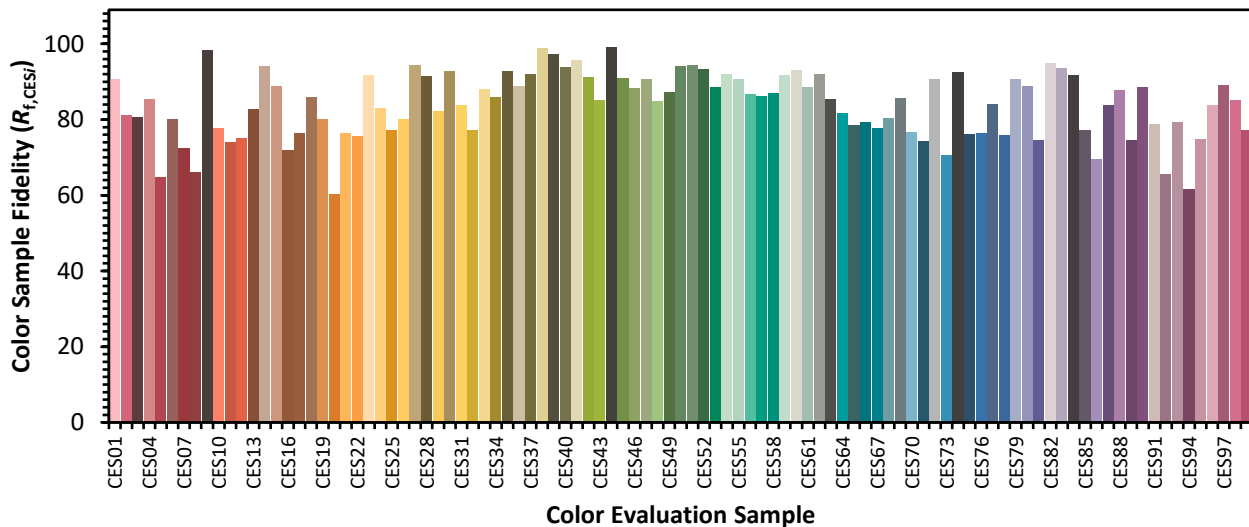


**Color Vector Graphics**

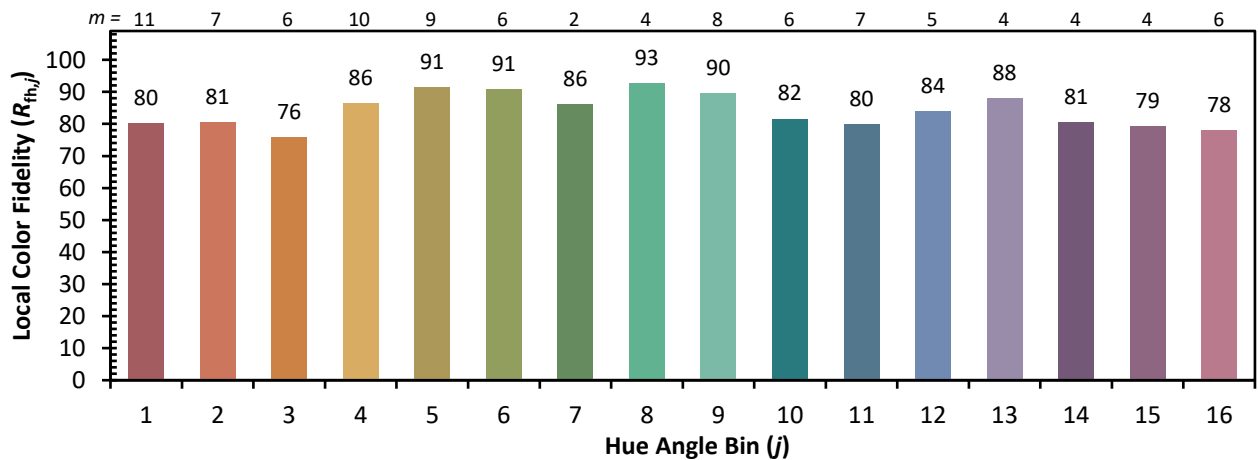
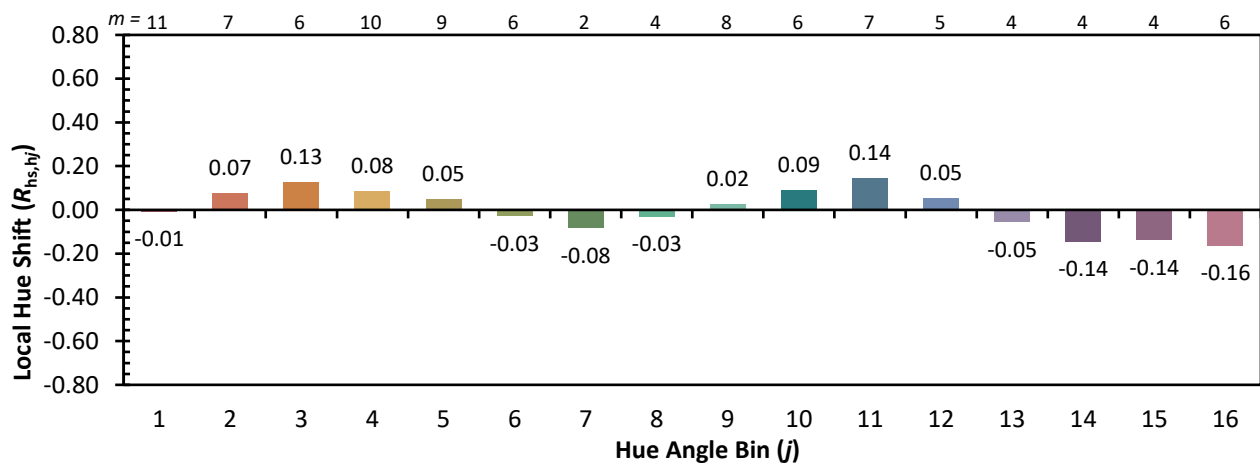
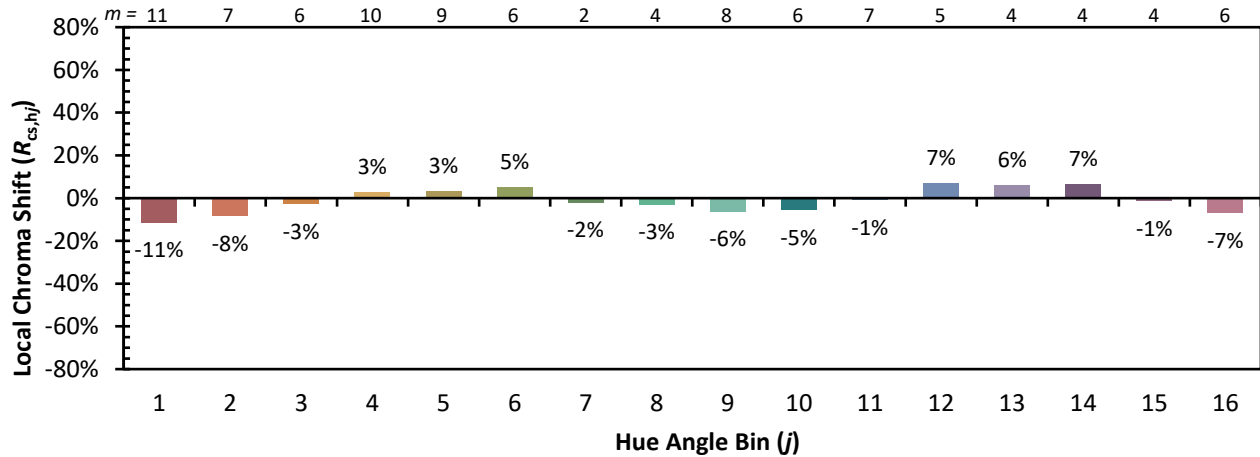


Individual Sample Fidelity Index ( $R_{f,i}$ )

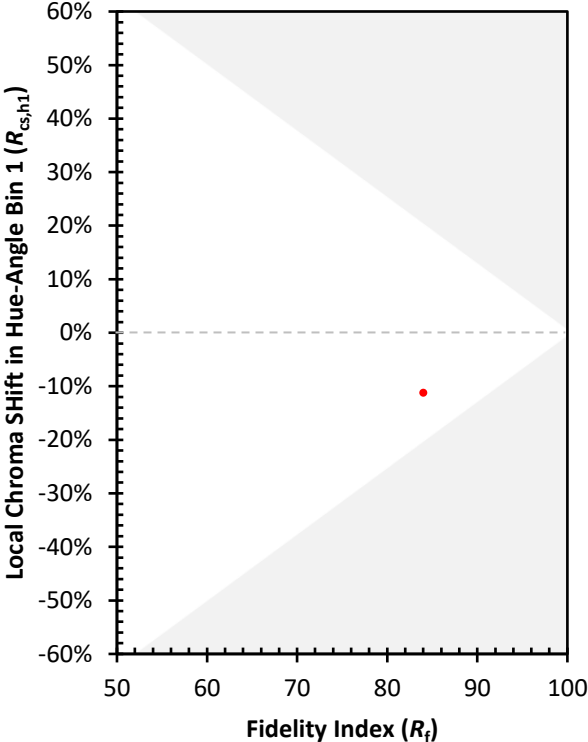
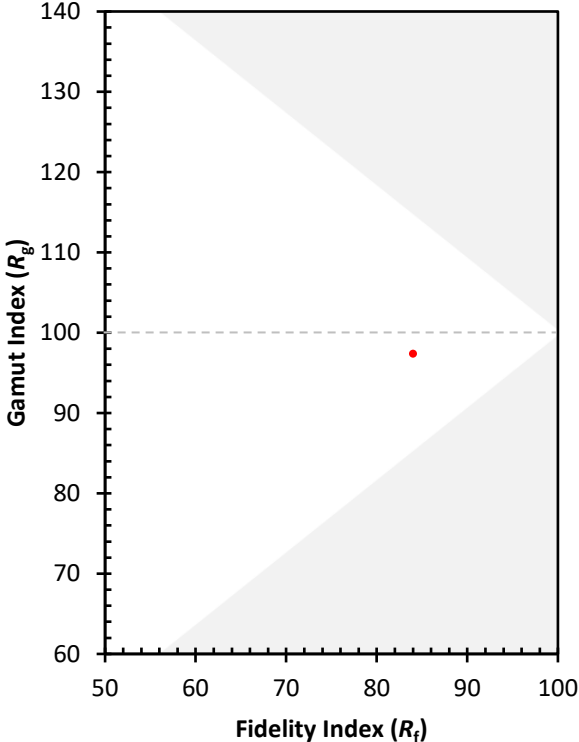
CES01 = 86	CES26 = 80	CES51 = 94	CES76 = 76
CES02 = 63	CES27 = 94	CES52 = 93	CES77 = 84
CES03 = 31	CES28 = 92	CES53 = 88	CES78 = 76
CES04 = 70	CES29 = 82	CES54 = 92	CES79 = 91
CES05 = 50	CES30 = 93	CES55 = 91	CES80 = 89
CES06 = 51	CES31 = 84	CES56 = 87	CES81 = 75
CES07 = 42	CES32 = 77	CES57 = 86	CES82 = 95
CES08 = 41	CES33 = 88	CES58 = 87	CES83 = 93
CES09 = 29	CES34 = 86	CES59 = 92	CES84 = 92
CES10 = 76	CES35 = 93	CES60 = 93	CES85 = 77
CES11 = 59	CES36 = 89	CES61 = 89	CES86 = 69
CES12 = 65	CES37 = 92	CES62 = 92	CES87 = 84
CES13 = 43	CES38 = 99	CES63 = 85	CES88 = 88
CES14 = 74	CES39 = 97	CES64 = 82	CES89 = 75
CES15 = 72	CES40 = 94	CES65 = 79	CES90 = 89
CES16 = 48	CES41 = 96	CES66 = 79	CES91 = 79
CES17 = 50	CES42 = 91	CES67 = 78	CES92 = 66
CES18 = 57	CES43 = 85	CES68 = 80	CES93 = 79
CES19 = 72	CES44 = 99	CES69 = 86	CES94 = 62
CES20 = 67	CES45 = 91	CES70 = 77	CES95 = 75
CES21 = 87	CES46 = 88	CES71 = 74	CES96 = 84
CES22 = 79	CES47 = 91	CES72 = 91	CES97 = 89
CES23 = 92	CES48 = 85	CES73 = 71	CES98 = 85
CES24 = 91	CES49 = 87	CES74 = 93	CES99 = 77
CES25 = 72	CES50 = 94	CES75 = 76	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)