

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: P1449884

Luminaire Tested: **TWC150_T4_90W_3000K**

Issue Date: 5/19/2026

Test Information

Test Method: LM-79-08
Report Number: P1449884
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_T4_90W_3000K
Description: Tapered Wall Cutoff Wall Mount Luminaire at, T4 distribution, 90W
3000K settings
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13164 lumens
Efficiency: N/A
Efficacy: 149.8 lumens/watt
Luminous Opening: Rectangular (W 1.33' x L: 0.42' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B3 - U0 - G2

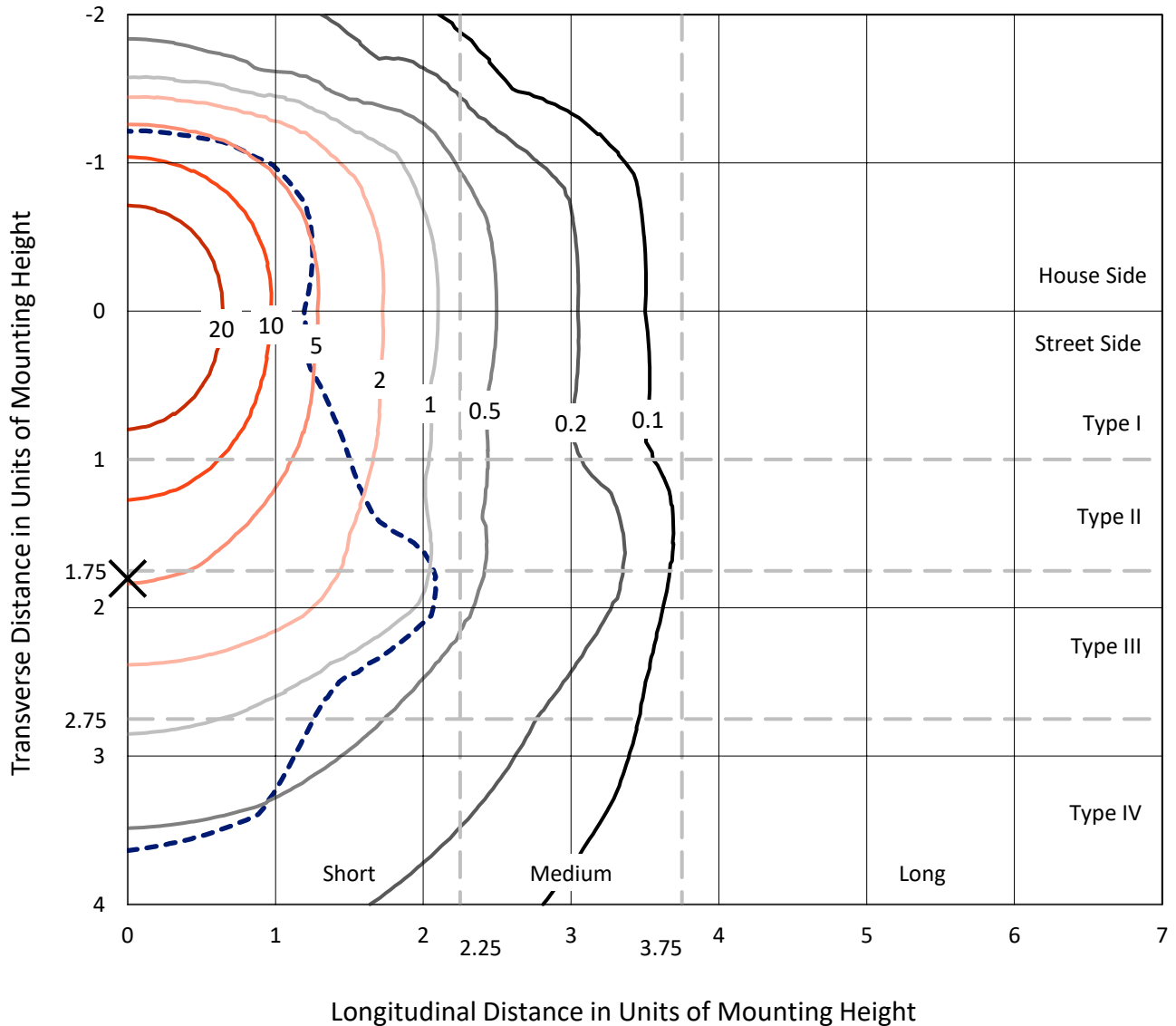
Input Watts (W): 87.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

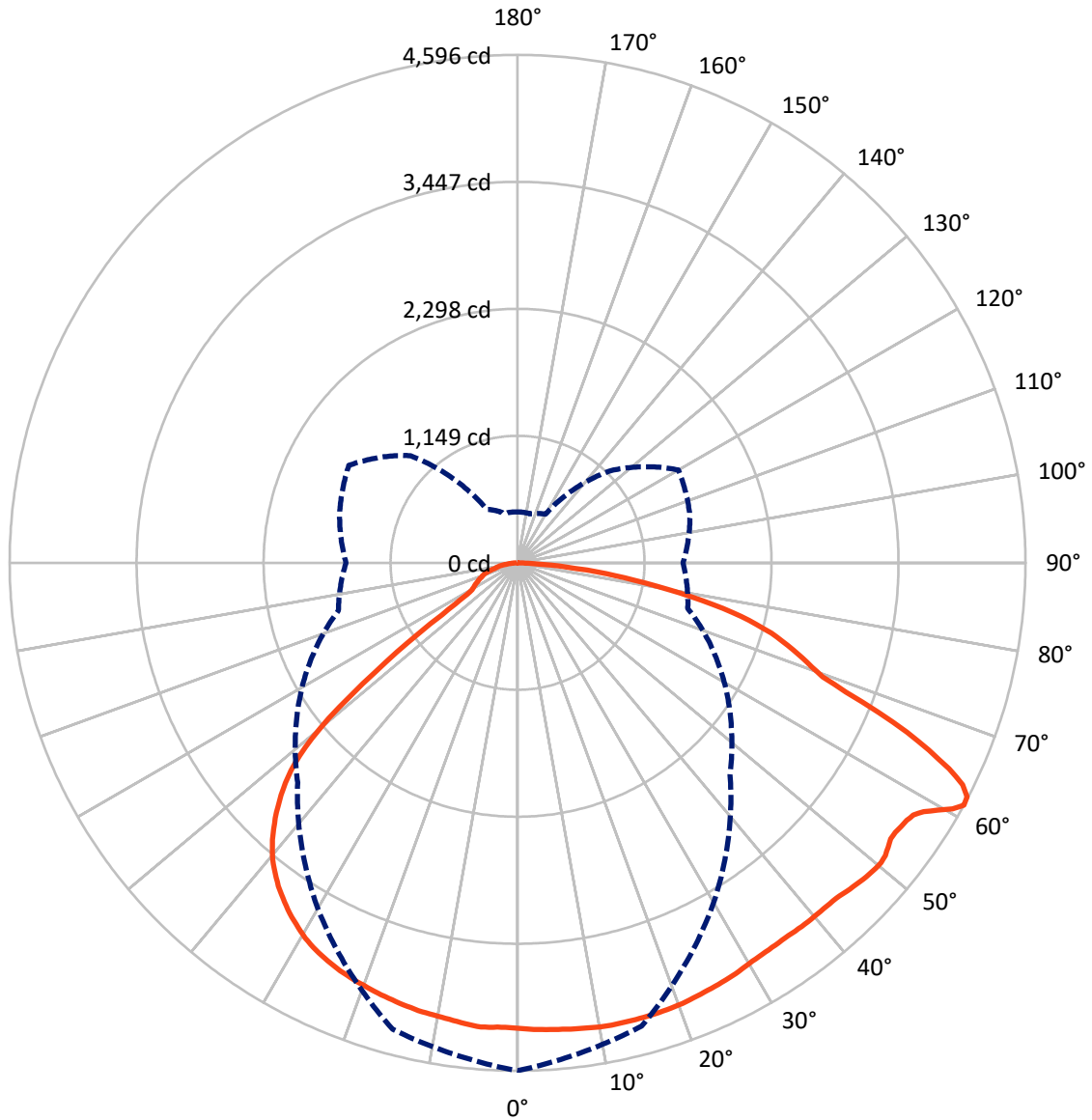
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 42.1 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 0-Deg Lateral - - - Horizontal Cone Through 61-Deg Vertical

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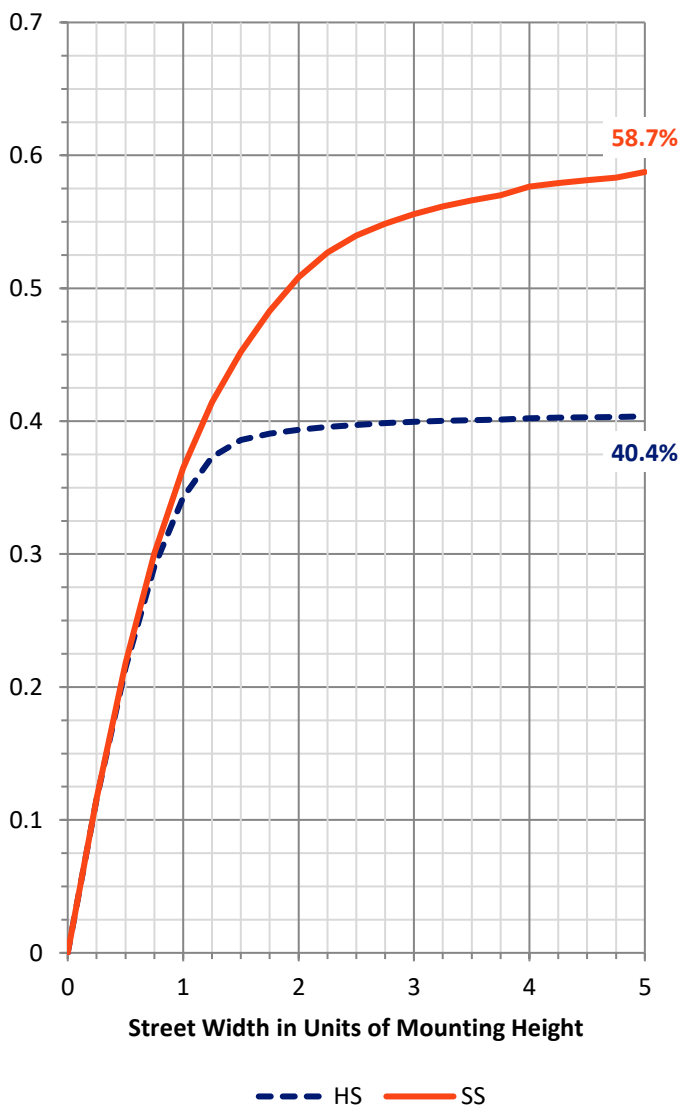
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5351.6	0.0	5351.6
	% Fixture	40.7	0.0	40.7
Street Side	Lumens	7812.4	0.0	7812.4
	% Fixture	59.3	0.0	59.3
Total	Lumens	13164.0	0.0	13164.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	400.8	3.0
10°-20°	1164.6	8.8
20°-30°	1810.6	13.8
30°-40°	2269.0	17.2
40°-50°	2470.7	18.8
50°-60°	2232.0	17.0
60°-70°	1699.2	12.9
70°-80°	898.5	6.8
80°-90°	218.5	1.7
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°	13164.0	100.0
0°-180°	13164.0	100.0

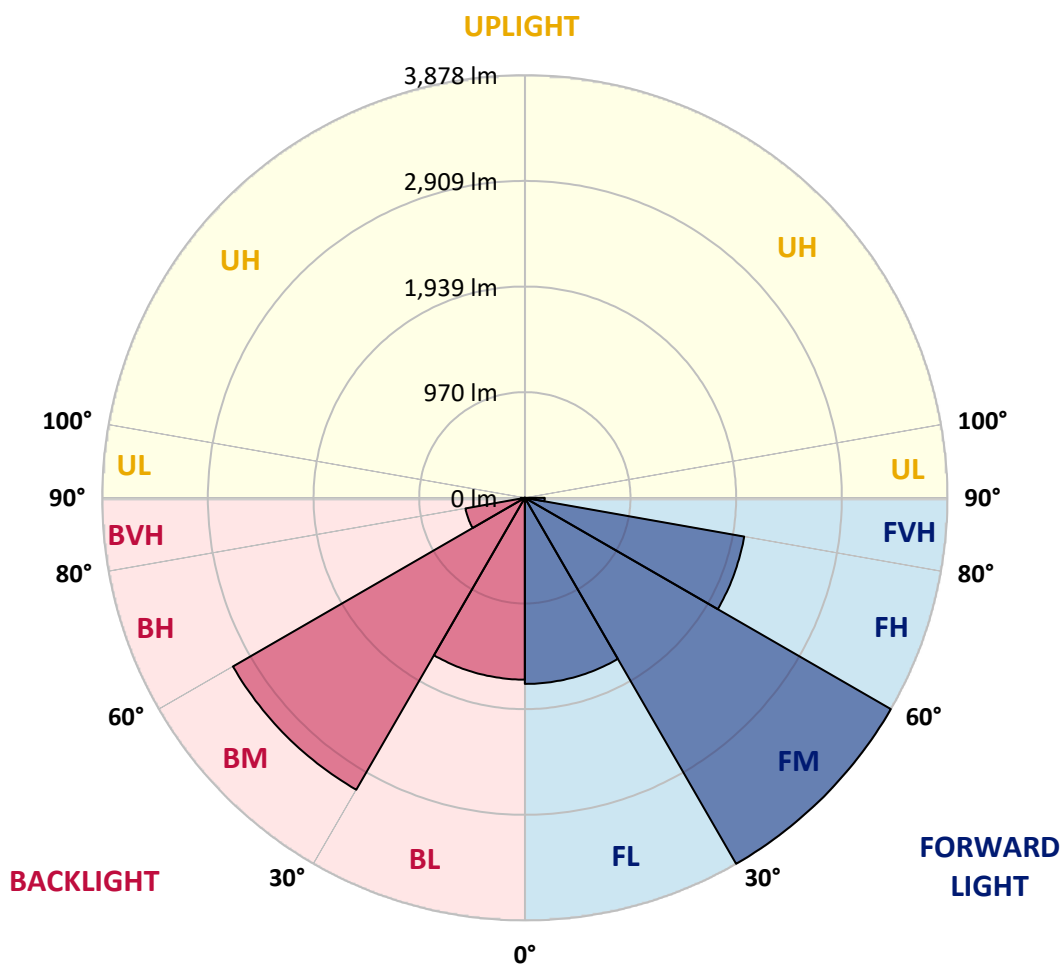


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1707.7	13.0			
FM (30°-60°)	3878.2	29.5			
FH (60°-80°)	2044.4	15.5			G2/5000
FVH (80°-90°)	182.1	1.4			G2/225
BL (0°-30°)	1668.3	12.7	B3/2500		
BM (30°-60°)	3093.6	23.5	B3/5000		
BH (60°-80°)	553.3	4.2	B2/1000		G2/1000
BVH (80°-90°)	36.5	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G2
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°
0°	4213.2	4213.2	4213.2	4213.2	4213.2	4213.2	4213.2	4213.2	4213.2	4213.2	4213.2
1°	4221.0	4220.5	4218.5	4215.5	4213.9	4212.1	4212.3	4209.2	4209.7	4207.9	4207.3
2°	4226.7	4224.7	4221.1	4217.6	4214.3	4209.7	4211.0	4204.3	4203.7	4203.9	4202.4
3°	4231.5	4228.6	4224.1	4219.3	4212.7	4207.0	4206.2	4198.5	4198.4	4199.0	4201.2
4°	4236.0	4232.2	4227.1	4218.9	4210.3	4201.0	4198.3	4191.7	4191.6	4196.7	4202.7
5°	4239.9	4235.0	4227.5	4218.4	4204.6	4194.6	4189.8	4182.7	4184.8	4196.5	4205.1
6°	4245.7	4239.3	4229.1	4216.2	4202.3	4186.2	4179.3	4172.2	4179.3	4194.9	4201.6
7°	4250.2	4243.0	4229.7	4212.4	4195.2	4176.4	4166.7	4160.5	4173.8	4188.8	4192.3
8°	4256.5	4247.0	4229.9	4208.6	4186.9	4164.8	4153.6	4148.1	4167.0	4177.8	4179.5
9°	4262.1	4251.4	4230.7	4203.8	4177.0	4152.5	4139.0	4134.9	4157.5	4163.5	4167.3
10°	4267.2	4254.8	4230.8	4200.2	4168.2	4139.1	4121.0	4121.7	4144.4	4147.3	4154.7
11°	4269.0	4257.6	4230.2	4195.3	4158.0	4125.5	4103.7	4108.0	4128.2	4132.4	4142.4
12°	4268.5	4257.7	4228.0	4187.5	4146.3	4107.5	4085.1	4092.8	4110.6	4117.2	4131.2
13°	4268.1	4255.0	4222.4	4177.3	4131.0	4089.9	4063.5	4074.6	4090.7	4099.3	4120.9
14°	4267.7	4254.2	4218.1	4165.5	4115.1	4072.7	4040.4	4054.3	4069.2	4084.2	4110.8
15°	4267.2	4252.1	4210.1	4154.4	4096.2	4050.7	4016.4	4032.7	4045.9	4067.3	4098.5
16°	4266.8	4247.2	4202.5	4139.6	4076.4	4028.8	3991.7	4008.9	4023.3	4051.0	4084.5
17°	4265.5	4243.6	4194.1	4123.4	4052.8	4002.5	3965.1	3984.2	3998.8	4033.5	4070.3
18°	4262.6	4238.9	4184.7	4106.4	4028.3	3974.8	3935.7	3955.9	3975.0	4014.4	4056.6
19°	4259.4	4233.0	4174.5	4089.5	4001.9	3943.0	3906.6	3927.4	3949.4	3993.5	4041.0
20°	4256.1	4227.1	4163.7	4072.1	3974.9	3911.0	3874.3	3897.6	3925.0	3972.2	4025.5
21°	4250.1	4221.9	4152.2	4053.2	3949.5	3875.2	3842.9	3867.6	3898.6	3953.0	4009.3
22°	4243.5	4213.6	4140.0	4034.7	3920.2	3840.5	3809.4	3834.0	3871.3	3930.7	3991.6
23°	4236.8	4204.7	4127.4	4014.2	3890.5	3802.0	3772.8	3802.4	3841.0	3908.2	3973.1
24°	4231.6	4198.0	4114.5	3995.3	3861.1	3763.1	3736.3	3767.8	3809.4	3881.7	3952.9
25°	4225.0	4187.4	4100.8	3971.5	3830.2	3723.0	3696.1	3734.1	3776.6	3857.3	3934.0
26°	4218.7	4179.5	4086.2	3950.7	3799.7	3681.7	3655.1	3696.5	3743.6	3831.3	3912.3
27°	4212.8	4169.6	4071.9	3927.6	3765.8	3640.9	3612.7	3658.4	3709.5	3804.3	3892.1
28°	4202.9	4159.5	4055.0	3903.1	3733.8	3597.6	3570.3	3618.8	3675.2	3775.8	3867.6
29°	4192.5	4147.0	4039.3	3877.8	3698.2	3555.1	3524.6	3578.0	3641.0	3748.6	3843.7
30°	4184.4	4135.0	4021.3	3851.4	3662.0	3510.1	3479.0	3534.4	3606.0	3719.1	3816.5
31°	4179.6	4125.0	4001.5	3825.5	3624.6	3464.7	3432.9	3489.6	3568.5	3687.0	3789.5
32°	4175.3	4116.4	3980.6	3797.8	3587.3	3417.0	3386.3	3443.1	3532.3	3654.9	3759.5
33°	4172.3	4108.1	3962.7	3768.3	3546.4	3369.5	3337.5	3394.6	3493.2	3621.0	3727.3
34°	4171.0	4101.2	3944.1	3738.4	3507.0	3321.6	3287.9	3347.1	3456.2	3587.0	3690.2
35°	4168.8	4096.8	3925.8	3707.4	3464.9	3271.2	3236.3	3295.8	3414.0	3549.3	3652.2
36°	4171.0	4091.0	3909.1	3674.8	3422.6	3219.9	3182.2	3246.7	3373.3	3511.4	3611.1
37°	4174.5	4089.5	3895.4	3643.4	3378.1	3166.6	3127.5	3194.7	3328.8	3470.1	3567.1
38°	4176.1	4088.1	3879.4	3612.7	3333.2	3113.2	3070.8	3142.2	3282.7	3427.4	3520.8
39°	4178.4	4084.5	3865.4	3579.3	3288.2	3055.4	3011.8	3089.3	3234.4	3380.1	3471.8
40°	4177.4	4078.9	3853.4	3550.0	3238.9	2997.1	2951.8	3036.5	3186.5	3332.5	3422.8
41°	4178.8	4072.9	3837.8	3520.1	3189.7	2938.1	2891.2	2983.8	3138.2	3283.0	3367.1
42°	4182.3	4069.3	3820.5	3494.3	3141.3	2877.6	2828.4	2928.4	3087.6	3229.9	3311.8
43°	4186.6	4066.0	3802.2	3463.3	3092.5	2816.7	2765.5	2872.5	3034.5	3175.2	3248.2
44°	4198.4	4066.3	3786.3	3433.9	3043.9	2752.8	2702.8	2816.8	2982.7	3116.2	3182.5



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CANDELA DISTRIBUTION (continued):

	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°
45°	4213.9	4074.4	3768.4	3402.3	2998.7	2690.9	2635.2	2758.9	2926.5	3056.0	3109.2
46°	4225.6	4084.4	3751.1	3370.4	2954.4	2623.9	2569.9	2699.0	2869.8	2994.2	3030.8
47°	4240.6	4087.5	3739.8	3335.9	2910.9	2562.4	2502.9	2640.5	2812.1	2931.3	2946.3
48°	4249.9	4094.1	3738.1	3299.5	2869.6	2496.7	2435.2	2577.5	2751.1	2858.9	2855.9
49°	4260.1	4095.7	3727.5	3268.2	2828.0	2434.8	2364.6	2517.1	2688.0	2784.5	2759.0
50°	4263.6	4103.5	3713.9	3231.4	2787.7	2369.4	2293.6	2450.7	2623.3	2702.7	2656.9
51°	4252.7	4108.1	3698.4	3200.6	2745.4	2306.5	2223.5	2383.8	2554.8	2617.5	2549.5
52°	4225.6	4092.1	3679.7	3171.5	2705.2	2243.7	2150.4	2313.2	2483.4	2525.4	2424.9
53°	4199.6	4059.2	3663.6	3140.4	2657.2	2181.5	2076.8	2241.5	2410.6	2429.2	2272.5
54°	4197.9	4032.3	3636.1	3100.1	2603.8	2119.9	2002.3	2167.9	2335.8	2327.7	2079.8
55°	4211.9	4033.2	3596.7	3061.1	2546.7	2054.2	1927.4	2092.2	2255.9	2220.8	1837.2
56°	4222.5	4040.4	3558.9	3017.4	2484.6	1990.4	1853.9	2019.9	2171.3	2106.4	1561.9
57°	4245.9	4045.9	3544.4	2975.4	2420.4	1920.7	1778.8	1944.1	2080.6	1985.5	1298.3
58°	4309.5	4064.4	3542.9	2926.5	2358.2	1848.6	1706.1	1868.2	1984.7	1836.3	1034.9
59°	4409.8	4130.3	3536.4	2852.9	2296.7	1768.5	1634.7	1783.7	1882.4	1655.5	773.5
60°	4521.5	4228.0	3529.1	2779.2	2228.8	1684.1	1565.4	1703.5	1784.0	1414.8	618.4
61°	4595.8	4339.0	3549.5	2717.8	2158.8	1594.3	1497.1	1615.2	1680.8	1174.2	508.1
62°	4585.5	4396.3	3620.6	2673.8	2079.8	1505.2	1429.4	1525.7	1577.5	933.7	447.5
63°	4498.9	4362.9	3724.9	2634.0	1997.6	1413.7	1362.0	1436.3	1467.2	710.3	417.7
64°	4324.1	4246.7	3816.4	2599.7	1907.6	1322.6	1292.0	1344.6	1352.4	545.2	400.1
65°	4089.8	4034.6	3812.0	2584.6	1803.5	1233.3	1219.4	1258.4	1219.2	439.4	384.2
66°	3842.7	3773.3	3691.5	2609.1	1684.2	1142.7	1146.8	1173.0	1086.1	382.0	368.7
67°	3536.1	3515.0	3450.9	2716.2	1567.5	1061.9	1073.8	1087.4	951.6	355.6	352.2
68°	3191.9	3159.9	3135.1	2872.6	1463.0	979.9	987.7	997.0	757.9	337.8	335.1
69°	2948.5	2874.2	2806.3	2907.2	1370.7	904.4	901.1	917.4	563.3	320.8	317.9
70°	2825.3	2700.0	2474.1	2709.2	1281.5	828.8	811.6	837.7	418.0	303.0	301.1
71°	2718.3	2607.5	2241.5	2285.4	1204.1	760.8	724.9	762.8	335.7	284.6	284.8
72°	2613.6	2507.0	2117.1	1862.2	1170.0	695.0	640.8	684.2	295.0	266.2	269.6
73°	2500.1	2405.0	2015.4	1578.5	1295.4	630.1	560.5	603.6	272.0	248.2	256.6
74°	2383.5	2300.6	1907.0	1463.2	1632.7	567.5	487.1	524.8	251.8	231.2	242.3
75°	2237.8	2188.6	1787.8	1358.6	1434.8	501.1	417.9	442.2	230.7	215.4	223.8
76°	2081.4	2061.0	1674.8	1273.7	908.1	434.6	358.3	368.0	211.7	200.4	205.0
77°	1903.2	1929.0	1546.5	1192.8	645.7	368.2	301.7	291.3	193.1	185.7	185.2
78°	1699.0	1781.0	1424.2	1058.0	552.8	334.5	252.0	232.8	175.9	168.1	165.3
79°	1492.6	1605.6	1328.1	851.4	598.3	294.4	207.5	196.1	158.6	149.3	147.9
80°	1275.4	1421.4	1220.7	715.8	634.2	253.7	170.0	171.6	142.9	130.5	130.6
81°	1068.4	1219.8	1097.7	642.8	500.1	231.6	138.7	149.7	127.2	111.7	113.4
82°	886.3	1023.7	959.8	582.2	365.5	202.5	107.3	127.7	111.5	90.4	103.1
83°	739.0	870.5	762.8	494.1	230.9	180.7	83.1	105.8	93.6	72.2	90.4
84°	526.8	670.7	626.0	405.4	194.0	145.7	62.1	85.2	75.5	61.8	75.7
85°	378.8	493.3	482.4	316.7	165.9	92.9	45.3	66.5	58.1	51.3	59.7
86°	231.4	316.5	338.7	136.7	135.8	61.0	31.1	49.1	41.3	38.2	42.2
87°	96.9	139.7	195.0	53.8	94.7	48.9	21.6	32.8	29.8	27.0	29.9
88°	48.3	69.5	98.6	39.1	29.9	36.8	12.1	22.0	20.2	15.7	17.6
89°	1.5	1.4	2.4	26.2	22.5	24.7	2.8	11.2	10.6	4.7	5.6



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 CATALOG NUMBER: TWC150_T4_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: P1449884
 CATALOG NUMBER: TWC150_T4_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: P1449884
CATALOG NUMBER: TWC150_T4_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: P1449884

CATALOG NUMBER: TWC150_T4_90W_300K

CANDELA DISTRIBUTION (continued):

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
0°	4213.2	4213.2	4213.2	4213.2	4213.2	4213.2	4213.2	4213.2	4213.2	4213.2	4213.2
1°	4207.6	4207.9	4208.7	4209.7	4207.7	4208.5	4210.8	4215.4	4216.5	4218.6	4219.8
2°	4203.9	4205.1	4204.5	4204.9	4204.2	4204.9	4207.1	4215.0	4215.4	4220.3	4223.1
3°	4202.3	4204.6	4203.5	4202.2	4200.5	4200.5	4203.3	4212.2	4215.0	4221.5	4226.2
4°	4207.8	4210.5	4208.1	4203.6	4197.9	4194.7	4196.5	4206.0	4212.5	4219.3	4227.7
5°	4210.0	4212.4	4210.8	4206.3	4198.1	4189.7	4189.9	4200.9	4208.1	4219.7	4229.3
6°	4205.2	4206.3	4207.1	4205.4	4198.2	4183.5	4180.1	4192.5	4202.5	4216.9	4229.1
7°	4195.5	4196.9	4197.8	4198.6	4193.5	4179.8	4171.5	4182.5	4195.1	4213.0	4228.0
8°	4182.9	4186.1	4186.4	4186.7	4185.6	4175.9	4160.2	4170.5	4187.1	4208.0	4227.5
9°	4174.0	4176.9	4178.4	4174.5	4174.5	4169.4	4147.5	4158.9	4177.6	4201.7	4224.0
10°	4163.5	4167.4	4167.7	4162.9	4159.9	4158.9	4135.4	4144.9	4165.4	4194.2	4218.5
11°	4155.6	4161.1	4158.8	4151.3	4144.9	4144.0	4121.3	4128.5	4153.2	4184.0	4213.6
12°	4147.3	4156.1	4151.9	4141.0	4130.1	4128.4	4108.6	4111.9	4140.0	4171.2	4207.5
13°	4141.2	4149.0	4143.1	4129.8	4113.8	4108.9	4092.5	4094.2	4123.9	4157.5	4201.4
14°	4131.1	4139.0	4134.8	4120.3	4099.6	4088.2	4075.3	4074.6	4105.8	4143.3	4191.0
15°	4121.5	4130.8	4125.9	4109.7	4083.0	4067.3	4055.7	4052.0	4086.6	4126.2	4178.5
16°	4109.1	4120.3	4114.4	4095.4	4068.2	4044.6	4034.8	4029.1	4063.8	4107.7	4162.8
17°	4095.6	4108.5	4102.4	4082.4	4051.7	4021.6	4011.7	4003.0	4038.8	4085.0	4147.8
18°	4084.8	4099.1	4091.7	4068.9	4033.3	3997.3	3985.5	3978.0	4011.6	4060.6	4133.8
19°	4072.8	4088.3	4080.4	4053.5	4014.0	3976.1	3959.2	3948.6	3981.7	4035.6	4116.7
20°	4059.5	4074.9	4066.6	4038.7	3993.8	3951.1	3929.0	3917.9	3948.6	4012.3	4102.8
21°	4046.3	4063.1	4051.8	4023.7	3973.0	3926.0	3900.3	3886.4	3914.7	3987.4	4086.8
22°	4030.0	4051.7	4038.2	4005.3	3952.3	3899.4	3869.4	3852.5	3881.5	3961.6	4068.8
23°	4017.2	4037.6	4025.4	3986.8	3930.4	3871.5	3837.9	3814.9	3845.6	3933.7	4050.2
24°	4003.9	4023.9	4011.1	3966.4	3907.5	3841.0	3805.4	3780.0	3808.9	3905.8	4030.9
25°	3986.5	4008.4	3995.3	3946.8	3882.6	3810.4	3772.1	3739.7	3770.9	3876.5	4012.2
26°	3969.6	3991.2	3977.5	3927.6	3857.7	3775.0	3735.8	3699.4	3731.1	3846.1	3991.2
27°	3950.4	3970.5	3957.9	3907.7	3831.0	3742.9	3698.2	3657.8	3692.4	3816.5	3969.6
28°	3927.2	3950.6	3936.3	3885.7	3804.0	3709.2	3658.9	3616.8	3653.3	3783.7	3946.5
29°	3903.7	3927.3	3912.9	3862.3	3774.5	3673.9	3617.7	3572.3	3608.8	3751.0	3921.3
30°	3878.7	3899.9	3888.5	3838.0	3745.7	3639.7	3576.1	3529.2	3565.3	3715.3	3897.5
31°	3848.9	3869.6	3859.0	3809.0	3715.7	3603.4	3531.3	3483.0	3521.6	3680.8	3872.9
32°	3817.3	3835.6	3826.5	3779.9	3683.5	3567.9	3486.7	3438.0	3476.7	3644.4	3849.5
33°	3780.8	3801.7	3791.8	3745.5	3649.4	3529.8	3437.2	3390.0	3430.2	3607.8	3820.4
34°	3744.1	3763.5	3754.7	3712.2	3615.4	3490.2	3391.1	3342.0	3384.8	3568.1	3793.8
35°	3703.7	3723.7	3715.7	3672.8	3580.3	3448.6	3338.3	3290.1	3335.6	3527.9	3762.6
36°	3662.4	3681.2	3672.9	3633.9	3541.9	3407.0	3289.1	3239.3	3284.7	3488.0	3732.4
37°	3616.4	3637.3	3629.4	3588.7	3502.2	3362.8	3236.5	3184.1	3235.5	3444.2	3700.9
38°	3570.7	3589.8	3583.9	3543.8	3461.7	3318.1	3186.3	3130.7	3180.3	3403.0	3673.0
39°	3519.6	3537.0	3534.1	3494.2	3416.2	3271.0	3133.1	3072.1	3126.6	3357.0	3643.1
40°	3468.1	3481.5	3481.8	3446.5	3368.5	3223.6	3082.2	3013.4	3067.5	3311.3	3612.9
41°	3406.5	3415.9	3422.5	3395.6	3318.3	3176.3	3027.9	2953.1	3013.3	3262.0	3583.6
42°	3338.1	3346.4	3357.2	3340.2	3267.0	3126.8	2972.5	2893.6	2951.8	3214.3	3556.3
43°	3266.0	3266.6	3283.2	3281.8	3212.2	3075.4	2916.8	2829.8	2891.6	3166.4	3530.1
44°	3185.5	3184.6	3208.9	3216.3	3156.6	3023.7	2859.9	2767.3	2829.2	3120.6	3500.4



REPORT NUMBER: P1449884

CATALOG NUMBER: TWC150_T4_90W_300K

CANDELA DISTRIBUTION (continued):

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
45°	3100.7	3094.0	3123.0	3146.1	3098.6	2969.0	2804.2	2702.0	2768.2	3078.2	3474.9
46°	3007.0	2998.3	3033.1	3070.0	3038.4	2914.5	2744.4	2634.3	2703.9	3031.3	3441.2
47°	2909.7	2894.2	2936.4	2989.5	2976.5	2858.0	2685.8	2567.4	2640.4	2991.0	3408.6
48°	2804.5	2780.8	2833.6	2901.2	2910.6	2798.4	2623.8	2497.3	2575.5	2946.6	3373.6
49°	2686.3	2632.5	2718.3	2807.4	2838.2	2736.4	2560.4	2430.9	2510.4	2909.8	3345.6
50°	2535.0	2451.7	2579.2	2710.5	2760.9	2674.0	2495.9	2358.3	2445.7	2868.8	3310.1
51°	2346.1	2213.9	2399.1	2603.6	2678.6	2607.6	2428.2	2287.8	2381.2	2831.9	3278.1
52°	2098.6	1930.7	2166.6	2489.3	2590.9	2540.0	2360.6	2213.6	2319.5	2786.8	3250.2
53°	1820.7	1626.8	1894.1	2355.2	2499.4	2466.5	2289.8	2141.9	2254.8	2740.5	3218.5
54°	1534.4	1360.5	1587.5	2183.9	2402.9	2393.7	2221.1	2068.0	2195.6	2690.3	3184.3
55°	1248.0	1094.2	1326.5	1963.2	2298.9	2315.3	2146.2	1991.7	2130.9	2635.9	3142.9
56°	963.4	830.3	1065.5	1704.3	2190.9	2234.5	2072.2	1917.1	2068.1	2576.3	3104.4
57°	761.0	675.4	805.8	1428.1	2076.8	2146.9	1994.8	1838.5	1999.5	2510.5	3063.1
58°	625.0	571.8	655.0	1151.9	1952.5	2054.0	1917.2	1765.3	1927.7	2451.3	3018.0
59°	533.5	507.5	553.7	878.1	1804.1	1958.6	1835.5	1690.0	1850.0	2387.3	2950.9
60°	481.7	476.4	493.1	689.3	1618.7	1863.3	1753.3	1622.0	1764.3	2322.8	2879.8
61°	458.0	460.6	462.8	558.5	1371.3	1762.8	1667.1	1551.6	1678.7	2251.3	2813.4
62°	442.1	446.5	446.4	475.5	1123.9	1661.2	1579.6	1483.8	1584.5	2177.0	2768.8
63°	428.0	433.7	431.7	431.4	877.7	1558.1	1493.2	1415.2	1495.1	2097.4	2732.1
64°	414.0	419.9	418.0	408.4	666.8	1453.8	1403.3	1347.2	1398.7	2012.5	2697.5
65°	399.1	404.6	403.5	392.1	516.7	1346.8	1316.1	1274.4	1309.3	1916.6	2679.3
66°	383.4	390.3	387.1	376.5	426.8	1219.6	1229.9	1196.6	1215.9	1797.4	2698.8
67°	369.2	377.6	372.3	360.0	377.2	1092.3	1143.7	1115.4	1132.4	1678.4	2792.6
68°	354.8	364.5	358.4	342.9	351.7	965.0	1057.4	1027.5	1049.8	1566.6	2957.1
69°	340.7	351.1	343.6	325.0	333.8	771.6	975.1	941.8	969.1	1475.5	3032.8
70°	326.7	340.1	330.0	307.7	316.0	571.4	897.4	854.1	892.3	1381.1	2891.3
71°	315.6	328.6	318.3	290.9	297.9	420.8	822.3	766.3	818.2	1299.3	2507.8
72°	302.2	312.5	306.0	275.4	280.4	335.2	747.5	679.7	748.6	1248.7	2067.3
73°	283.8	293.5	288.5	261.2	261.9	291.5	671.2	598.5	682.0	1302.1	1727.2
74°	264.1	272.6	269.9	248.8	244.3	267.4	596.6	527.4	620.7	1635.4	1539.0
75°	243.1	251.0	248.6	231.4	226.0	246.1	517.6	456.7	552.7	1695.4	1433.7
76°	222.2	229.6	227.3	213.0	210.5	225.7	440.5	385.9	490.2	1155.7	1355.2
77°	199.9	207.8	203.9	192.6	194.3	206.1	364.0	328.0	427.8	720.2	1261.1
78°	180.6	191.9	182.6	172.9	179.0	188.1	293.2	274.0	365.5	607.0	1150.8
79°	166.8	178.5	167.7	153.3	159.9	170.0	233.8	227.6	330.3	558.7	937.6
80°	155.3	166.1	155.0	133.7	140.7	152.6	193.7	186.6	289.7	702.5	783.0
81°	138.1	146.4	139.0	114.3	121.5	136.4	167.3	150.6	255.1	523.2	693.0
82°	120.9	126.8	122.9	103.5	102.2	120.3	144.5	120.3	230.2	386.5	627.9
83°	103.6	107.1	106.7	92.8	78.9	104.1	121.8	92.8	206.7	250.7	567.4
84°	83.2	85.6	86.1	78.6	64.6	85.4	99.1	70.6	183.9	207.9	437.5
85°	60.5	62.6	65.1	64.2	54.3	67.5	78.7	54.7	127.8	179.5	306.0
86°	44.8	47.2	47.6	46.5	42.8	49.9	58.9	38.9	70.4	150.0	174.5
87°	31.8	33.4	33.9	31.6	29.7	35.5	42.0	23.2	49.0	104.0	73.2
88°	18.9	19.7	20.1	21.9	20.6	24.2	28.4	12.3	27.7	58.6	36.7
89°	6.0	6.2	6.6	12.2	11.4	12.9	14.7	4.5	6.4	44.1	0.9



REPORT NUMBER: P1449884
 CATALOG NUMBER: TWC150_T4_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: P1449884
 CATALOG NUMBER: TWC150_T4_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: P1449884
CATALOG NUMBER: TWC150_T4_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: P1449884
 CATALOG NUMBER: TWC150_T4_90W_3000K

CANDELA DISTRIBUTION (continued):

	330°	345°	360°
0°	4213.2	4213.2	4213.2
1°	4219.7	4220.6	4221.0
2°	4225.2	4226.2	4226.7
3°	4230.0	4230.9	4231.5
4°	4232.6	4235.9	4236.0
5°	4234.2	4239.6	4239.9
6°	4237.5	4244.7	4245.7
7°	4240.5	4247.4	4250.2
8°	4242.3	4252.0	4256.5
9°	4243.5	4255.8	4262.1
10°	4243.7	4260.5	4267.2
11°	4244.1	4263.0	4269.0
12°	4241.7	4262.6	4268.5
13°	4237.8	4261.8	4268.1
14°	4232.7	4261.8	4267.7
15°	4225.7	4259.2	4267.2
16°	4216.8	4254.3	4266.8
17°	4210.8	4252.2	4265.5
18°	4200.9	4247.8	4262.6
19°	4194.1	4244.3	4259.4
20°	4185.7	4239.4	4256.1
21°	4176.6	4233.2	4250.1
22°	4164.1	4226.4	4243.5
23°	4152.3	4217.7	4236.8
24°	4139.7	4210.3	4231.6
25°	4125.8	4202.8	4225.0
26°	4113.6	4193.9	4218.7
27°	4098.0	4183.9	4212.8
28°	4085.1	4177.0	4202.9
29°	4068.5	4164.1	4192.5
30°	4052.9	4153.0	4184.4
31°	4035.1	4142.4	4179.6
32°	4015.7	4135.1	4175.3
33°	3998.4	4128.0	4172.3
34°	3981.8	4123.9	4171.0
35°	3964.6	4116.4	4168.8
36°	3949.0	4114.0	4171.0
37°	3935.1	4112.3	4174.5
38°	3920.8	4111.1	4176.1
39°	3911.5	4110.5	4178.4
40°	3898.3	4105.8	4177.4
41°	3885.9	4100.2	4178.8
42°	3869.2	4097.6	4182.3
43°	3853.4	4096.4	4186.6
44°	3837.1	4096.1	4198.4



REPORT NUMBER: P1449884
 CATALOG NUMBER: TWC150_T4_90W_3000K

CANDELA DISTRIBUTION (continued):

	330°	345°	360°
45°	3822.6	4104.7	4213.9
46°	3805.4	4113.2	4225.6
47°	3797.9	4119.9	4240.6
48°	3794.4	4127.1	4249.9
49°	3784.7	4132.5	4260.1
50°	3773.5	4138.8	4263.6
51°	3758.9	4139.4	4252.7
52°	3745.6	4124.5	4225.6
53°	3731.1	4090.8	4199.6
54°	3709.8	4066.8	4197.9
55°	3671.8	4064.9	4211.9
56°	3630.4	4076.5	4222.5
57°	3607.9	4081.4	4245.9
58°	3604.4	4100.5	4309.5
59°	3598.8	4162.7	4409.8
60°	3594.9	4258.2	4521.5
61°	3614.1	4369.1	4595.8
62°	3679.9	4431.1	4585.5
63°	3784.7	4402.9	4498.9
64°	3887.8	4293.0	4324.1
65°	3894.1	4095.5	4089.8
66°	3795.7	3833.7	3842.7
67°	3578.9	3572.1	3536.1
68°	3277.7	3221.9	3191.9
69°	2943.4	2912.7	2948.5
70°	2607.1	2726.1	2825.3
71°	2335.3	2626.6	2718.3
72°	2187.4	2532.1	2613.6
73°	2080.1	2421.6	2500.1
74°	1974.6	2320.7	2383.5
75°	1853.1	2200.9	2237.8
76°	1731.3	2075.5	2081.4
77°	1598.1	1938.8	1903.2
78°	1471.8	1799.0	1699.0
79°	1368.7	1624.6	1492.6
80°	1268.3	1438.8	1275.4
81°	1151.8	1232.6	1068.4
82°	1012.6	1032.8	886.3
83°	829.1	889.9	739.0
84°	660.6	699.8	526.8
85°	518.8	520.8	378.8
86°	378.7	342.2	231.4
87°	238.6	163.5	96.9
88°	19.2	81.6	48.3
89°	9.9	1.2	1.5



REPORT NUMBER: P1449884
CATALOG NUMBER: TWC150_T4_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: P1449884
CATALOG NUMBER: TWC150_T4_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: P1449884
CATALOG NUMBER: TWC150_T4_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

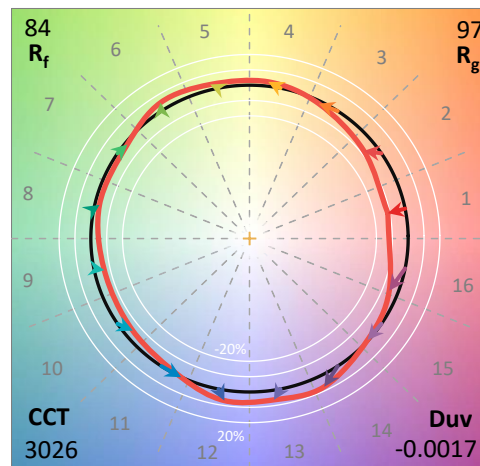
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2601-659-1
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 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

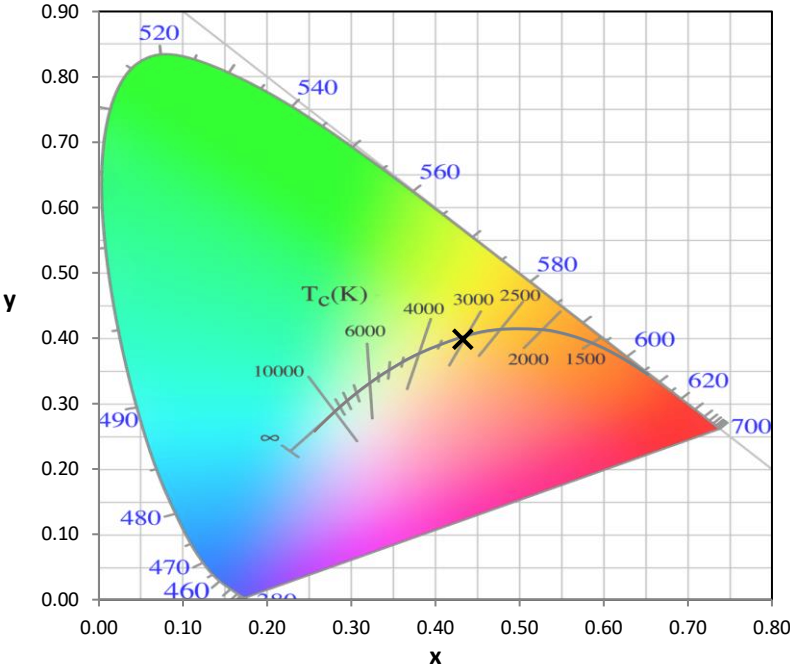
Stabilization Time: 64M
 Operation Time: 2H 4M
 Sphere Temperature (°C): 24.8

REPORT NUMBER: SP1-2601-659-1

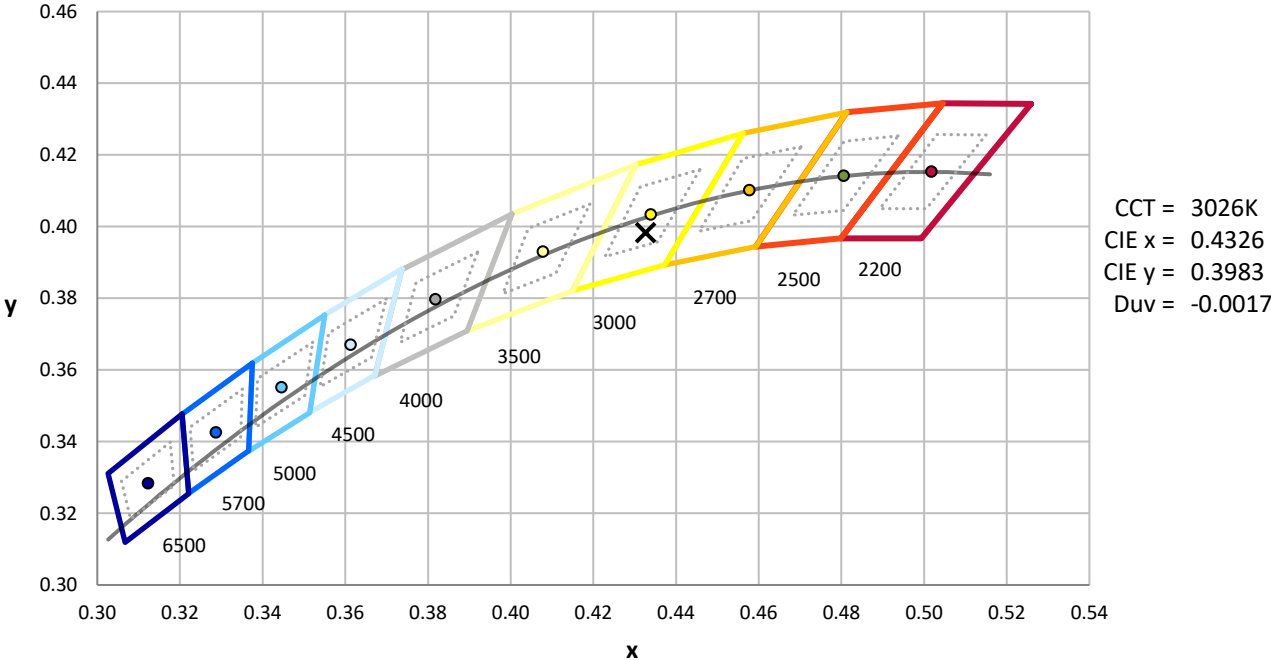
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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

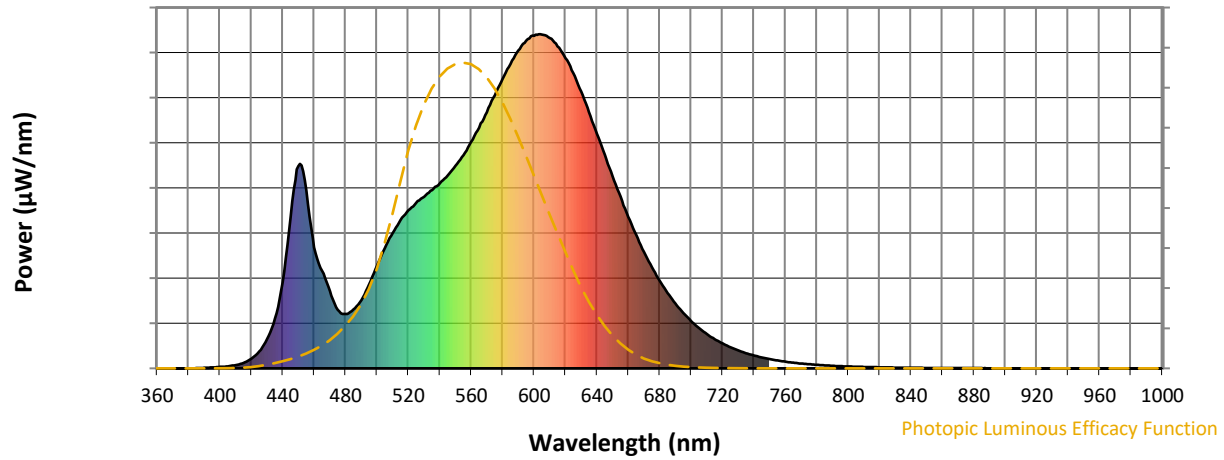


CCT = 3026K
 CIE x = 0.4326
 CIE y = 0.3983
 Duv = -0.0017

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2601-659-1

Photopic Flux vs. Wavelength

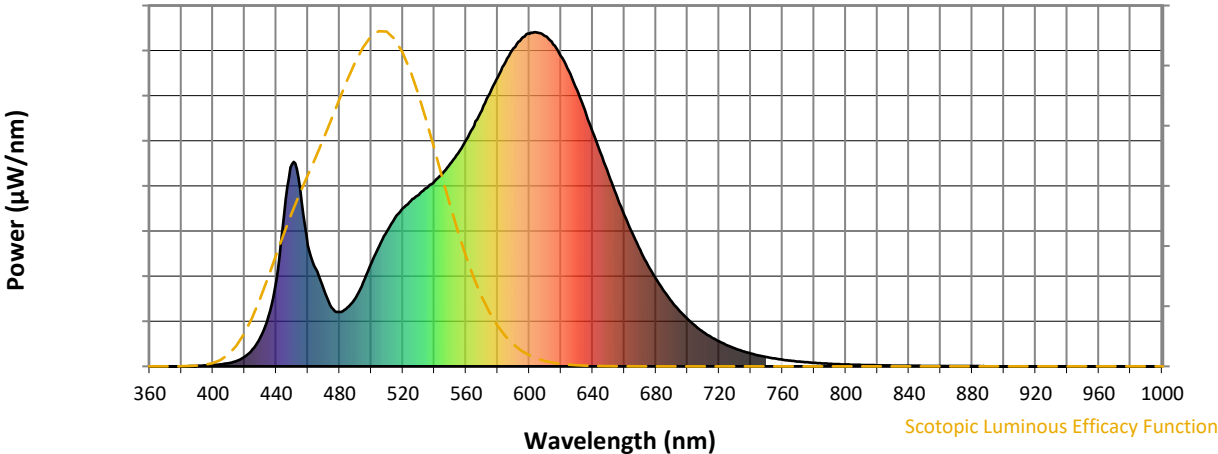


Photopic Lumens: NR

λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /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			

REPORT NUMBER: SP1-2601-659-1

Scotopic Flux vs. Wavelength

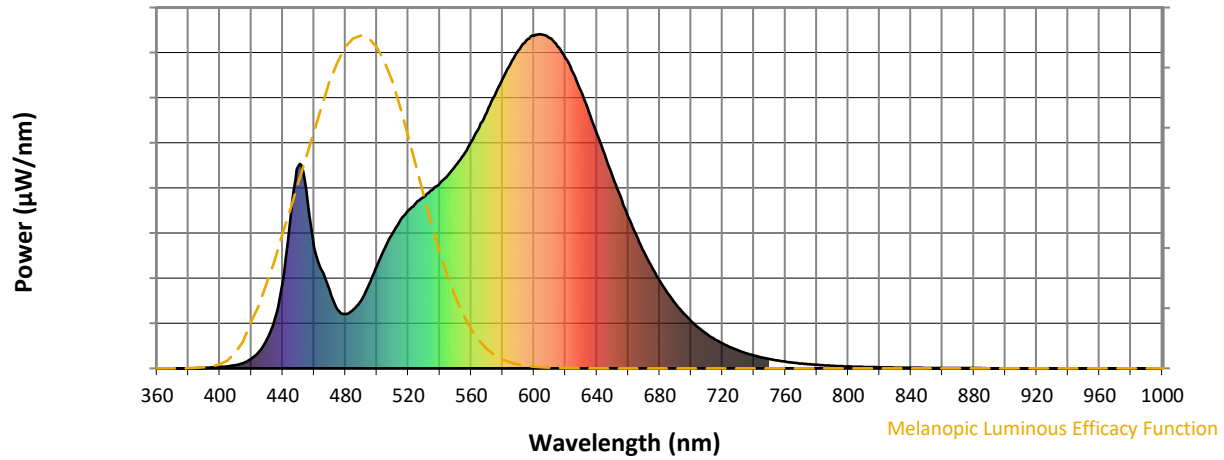


Scotopic Lumens: NR S/P: 1.35

λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /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			

REPORT NUMBER: SP1-2601-659-1

Melanopic Flux vs. Wavelength



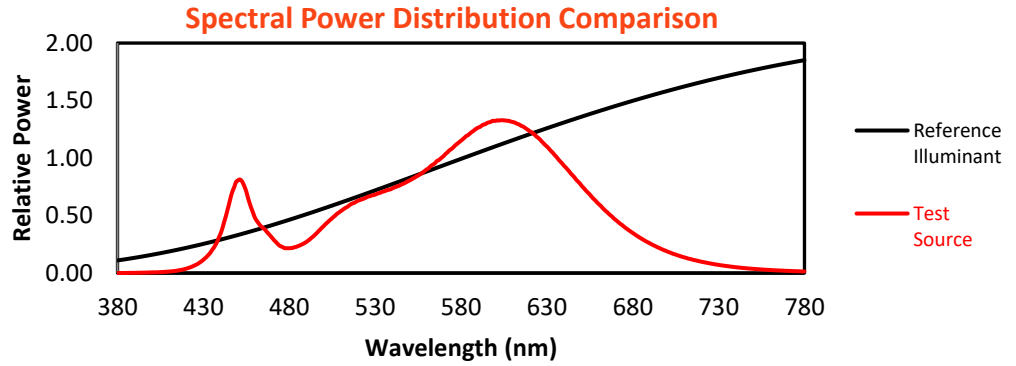
Melanopic Lumens: NR

M/P: 2.61

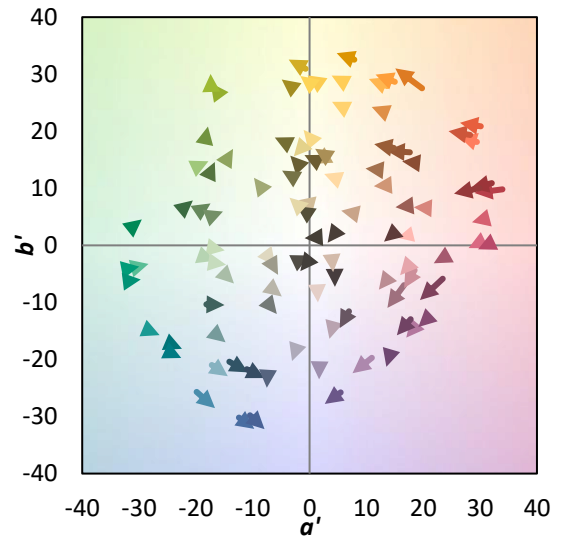
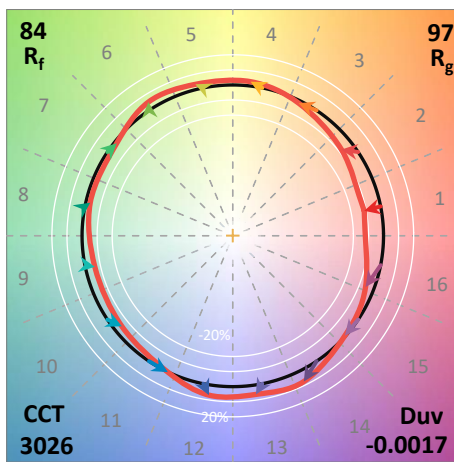
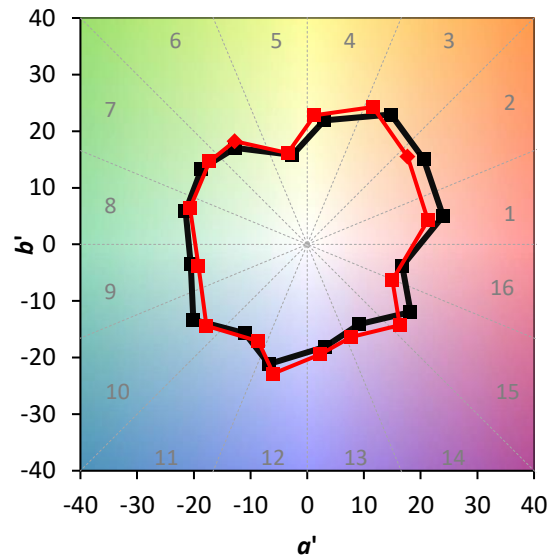
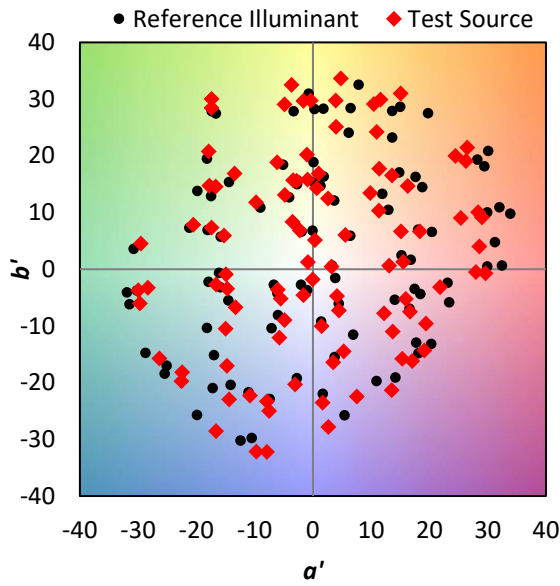
λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)
360	0	NR	490	204	NR	620	928	NR	750	28	NR	880	1	NR
365	0	NR	495	251	NR	625	884	NR	755	24	NR	885	1	NR
370	0	NR	500	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

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

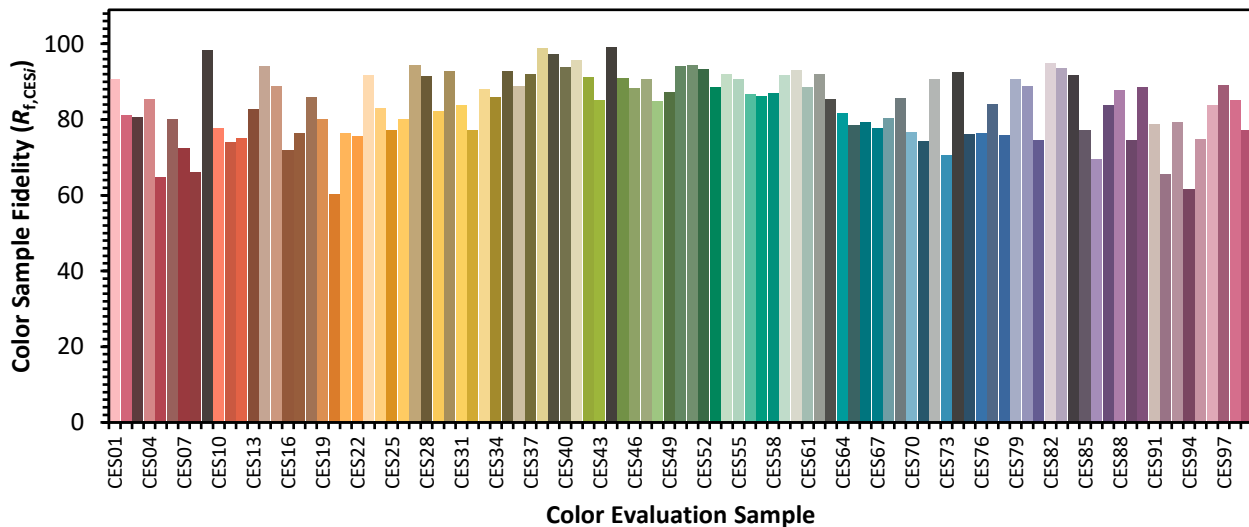


Color Vector Graphics

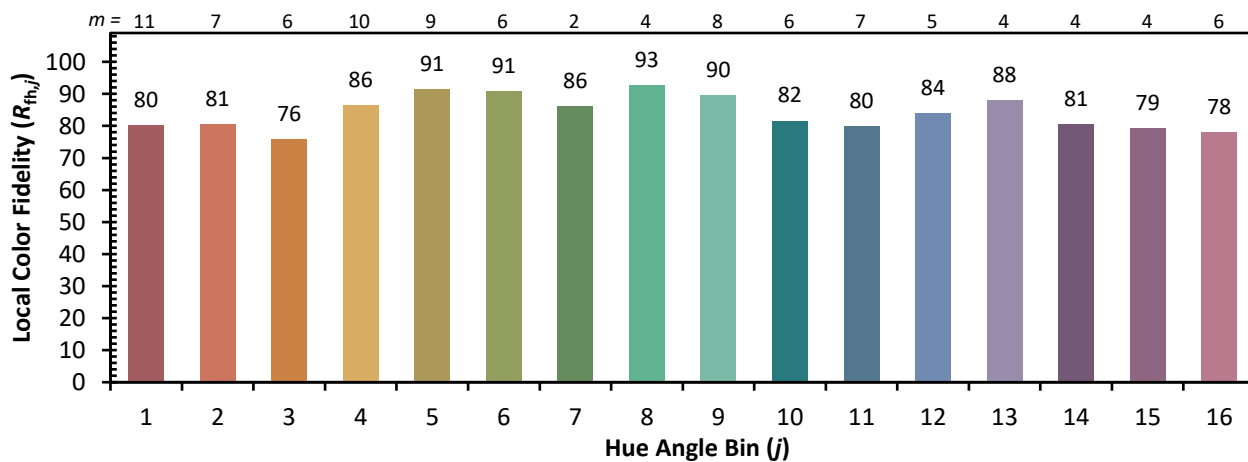
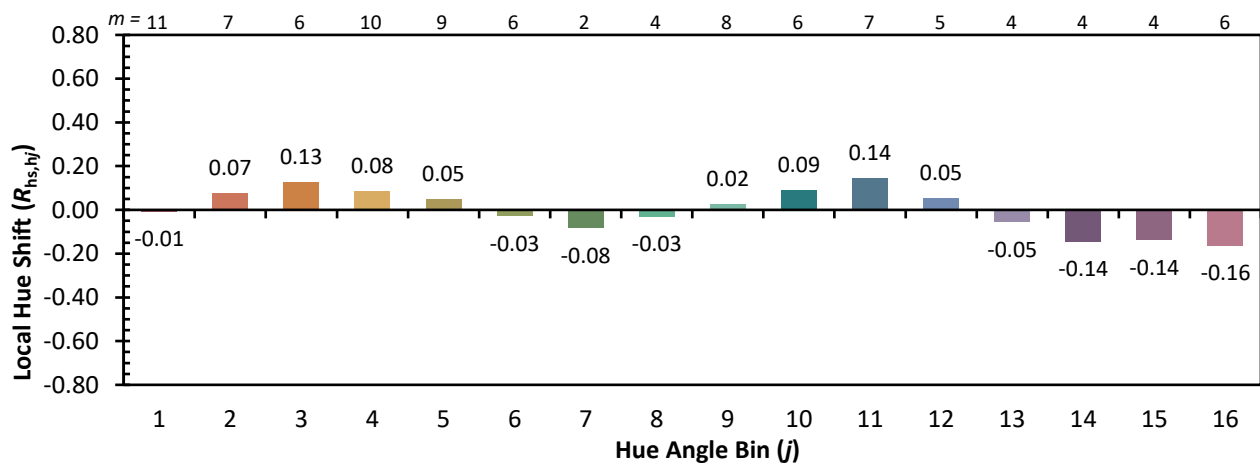
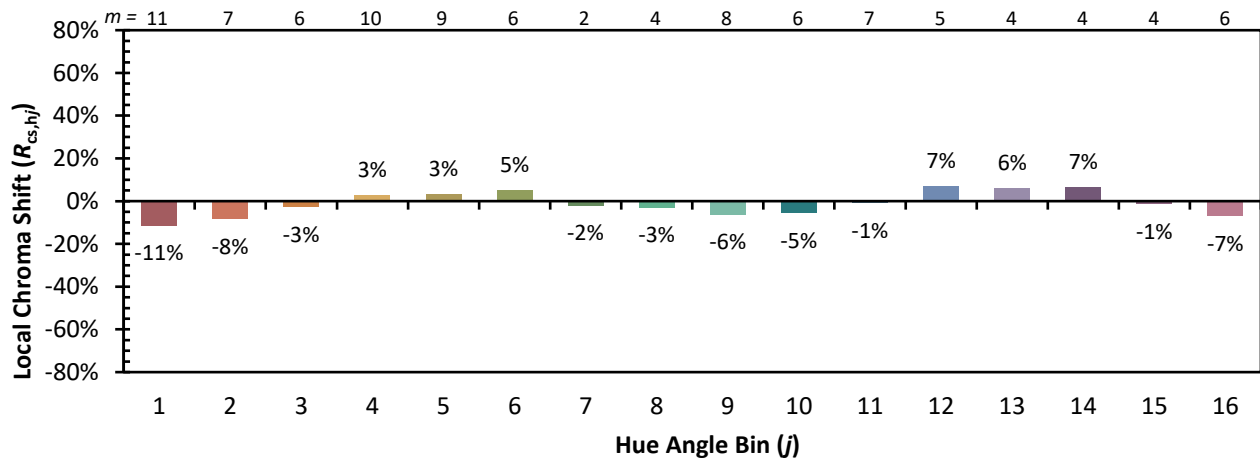


Individual Sample Fidelity Index ($R_{f,i}$)

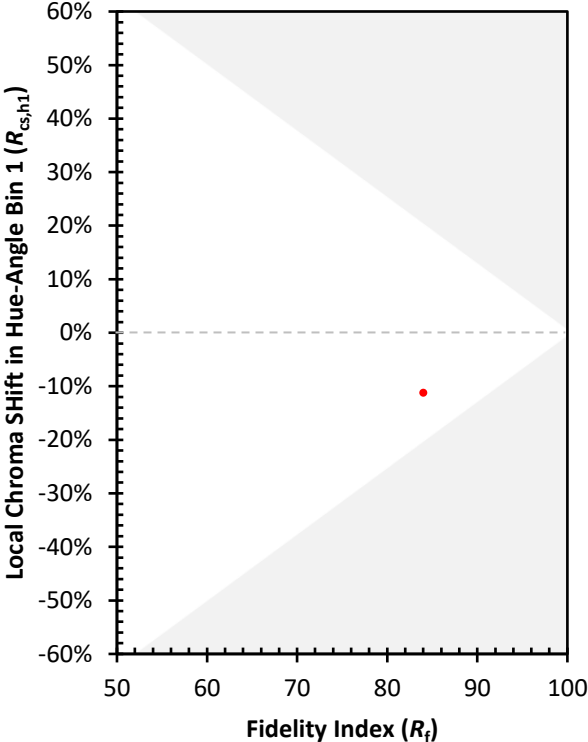
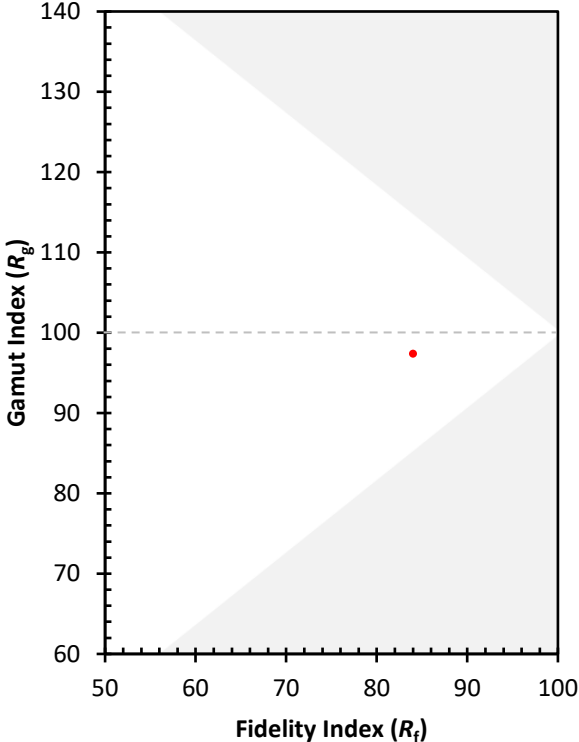
CES01 = 86	CES26 = 80	CES51 = 94	CES76 = 76
CES02 = 63	CES27 = 94	CES52 = 93	CES77 = 84
CES03 = 31	CES28 = 92	CES53 = 88	CES78 = 76
CES04 = 70	CES29 = 82	CES54 = 92	CES79 = 91
CES05 = 50	CES30 = 93	CES55 = 91	CES80 = 89
CES06 = 51	CES31 = 84	CES56 = 87	CES81 = 75
CES07 = 42	CES32 = 77	CES57 = 86	CES82 = 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)