

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: P1449886

Luminaire Tested: **TWC150_T4_90W_5000K**

Issue Date: 5/19/2026

Test Information

Test Method: LM-79-08
Report Number: P1449886
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_5000K
Description: Tapered Wall Cutoff Wall Mount Luminaire at, T4 distribution, 90W
5000K settings
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14033 lumens
Efficiency: N/A
Efficacy: 159.8 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

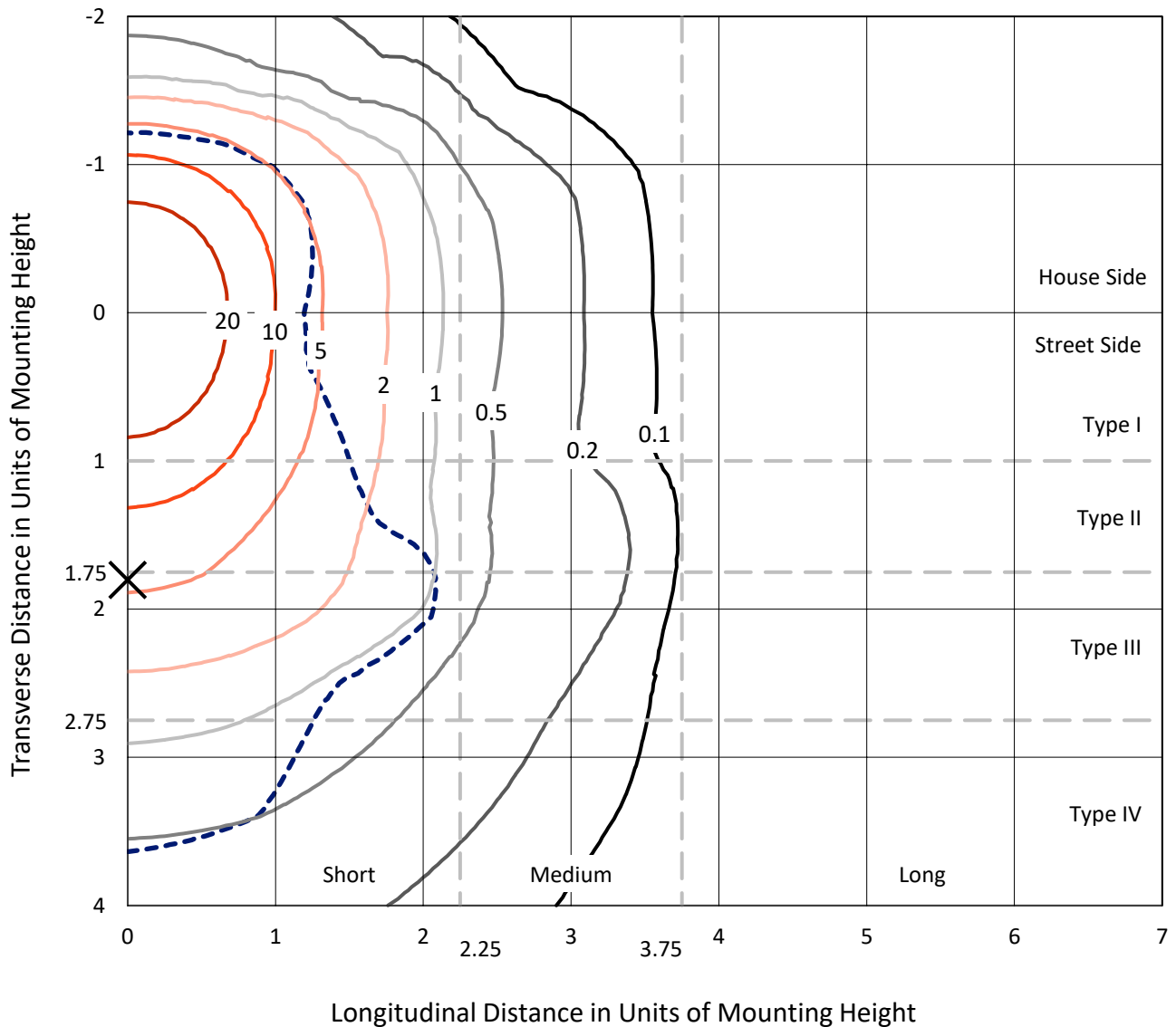
Input Watts (W): 87.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

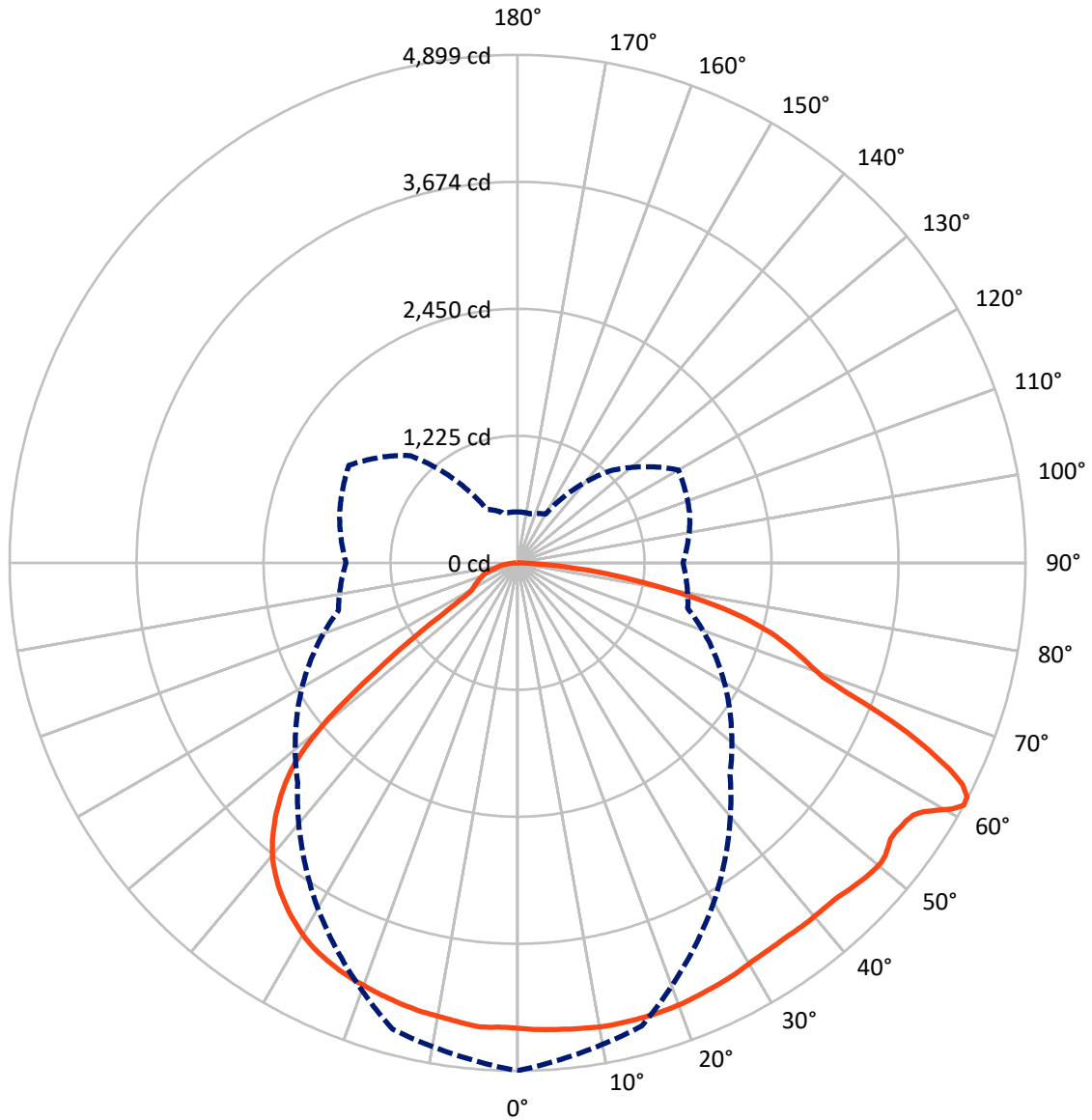
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 44.9 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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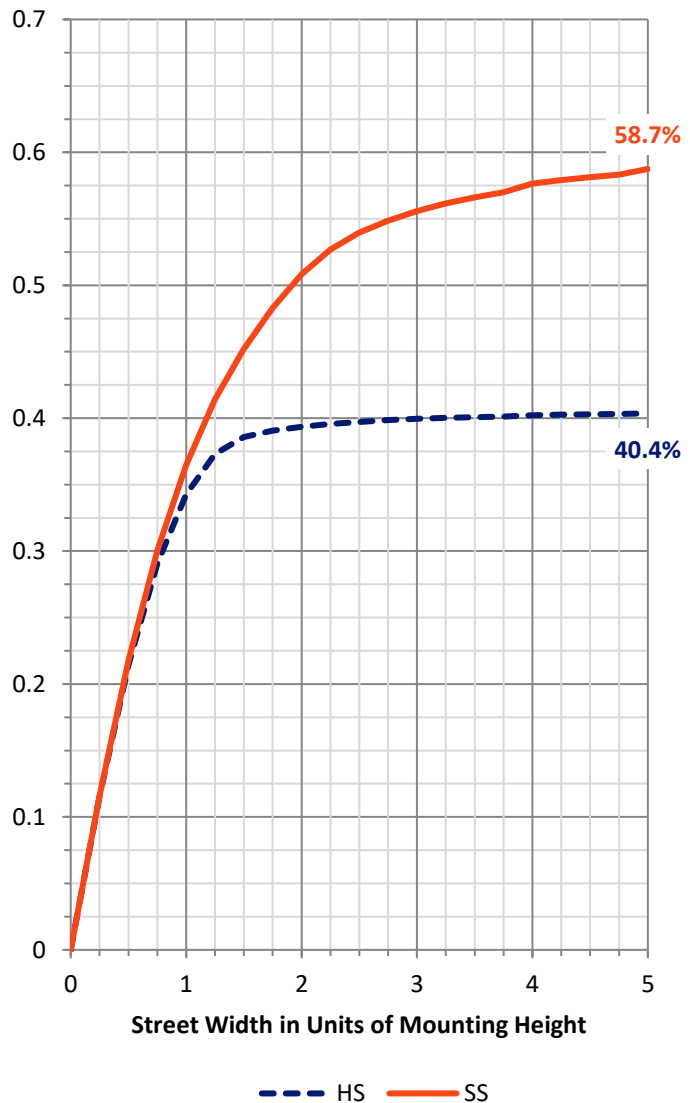
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5704.9	0.0	5704.9
	% Fixture	40.7	0.0	40.7
Street Side	Lumens	8328.1	0.0	8328.1
	% Fixture	59.3	0.0	59.3
Total	Lumens	14033.0	0.0	14033.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	427.3	3.0
10°-20°	1241.4	8.8
20°-30°	1930.1	13.8
30°-40°	2418.8	17.2
40°-50°	2633.8	18.8
50°-60°	2379.3	17.0
60°-70°	1811.4	12.9
70°-80°	957.8	6.8
80°-90°	233.0	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°	14033.0	100.0
0°-180°	14033.0	100.0

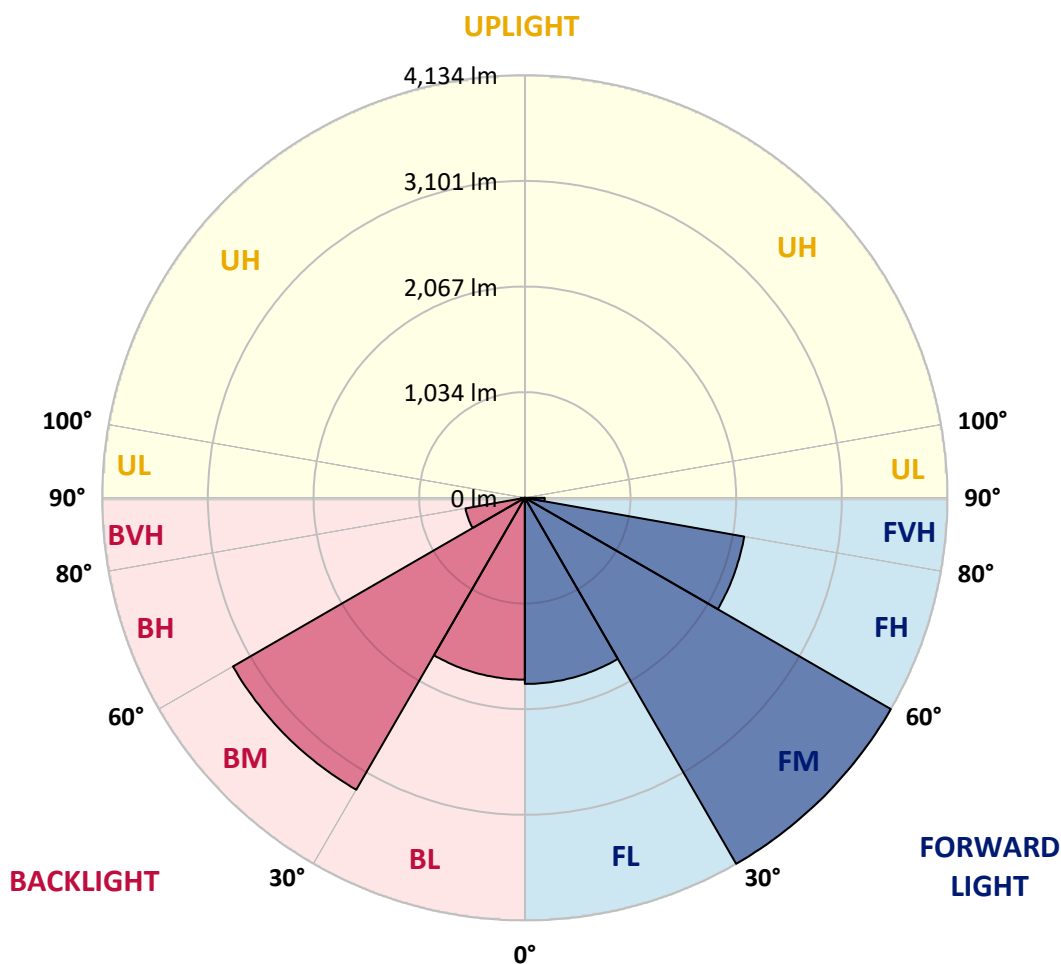


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1820.4	13.0			
FM (30°-60°)	4134.2	29.5			
FH (60°-80°)	2179.4	15.5			G2/5000
FVH (80°-90°)	194.1	1.4			G2/225
BL (0°-30°)	1778.5	12.7	B3/2500		
BM (30°-60°)	3297.8	23.5	B3/5000		
BH (60°-80°)	589.8	4.2	B2/1000		G2/1000
BVH (80°-90°)	38.9	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°	4491.3	4491.3	4491.3	4491.3	4491.3	4491.3	4491.3	4491.3	4491.3	4491.3	4491.3
1°	4499.6	4499.1	4497.0	4493.8	4492.1	4490.2	4490.4	4487.1	4487.6	4485.7	4485.0
2°	4505.7	4503.6	4499.7	4496.0	4492.5	4487.6	4489.0	4481.9	4481.2	4481.5	4479.8
3°	4510.8	4507.8	4502.9	4497.8	4490.8	4484.7	4483.9	4475.7	4475.5	4476.2	4478.6
4°	4515.6	4511.6	4506.1	4497.4	4488.2	4478.3	4475.4	4468.4	4468.3	4473.7	4480.1
5°	4519.8	4514.6	4506.5	4496.9	4482.1	4471.5	4466.4	4458.8	4461.1	4473.5	4482.7
6°	4526.0	4519.2	4508.2	4494.5	4479.7	4462.5	4455.2	4447.6	4455.1	4471.8	4479.0
7°	4530.8	4523.1	4509.0	4490.4	4472.1	4452.1	4441.7	4435.2	4449.3	4465.3	4469.0
8°	4537.5	4527.3	4509.1	4486.4	4463.3	4439.7	4427.8	4422.0	4442.1	4453.6	4455.4
9°	4543.4	4532.1	4510.0	4481.3	4452.8	4426.6	4412.2	4407.9	4431.9	4438.3	4442.4
10°	4548.9	4535.7	4510.1	4477.5	4443.4	4412.3	4393.1	4393.7	4418.0	4421.1	4429.0
11°	4550.8	4538.7	4509.4	4472.2	4432.5	4397.9	4374.6	4379.2	4400.7	4405.2	4415.8
12°	4550.3	4538.7	4507.1	4464.0	4420.1	4378.6	4354.7	4363.0	4382.0	4389.0	4403.9
13°	4549.9	4535.9	4501.2	4453.0	4403.7	4359.8	4331.8	4343.6	4360.8	4369.9	4393.0
14°	4549.4	4535.0	4496.5	4440.5	4386.7	4341.5	4307.1	4321.9	4337.8	4353.8	4382.2
15°	4548.9	4532.8	4488.1	4428.7	4366.6	4318.1	4281.5	4298.9	4313.0	4335.7	4369.1
16°	4548.5	4527.6	4479.9	4412.9	4345.5	4294.8	4255.2	4273.5	4288.9	4318.5	4354.1
17°	4547.1	4523.7	4470.9	4395.6	4320.3	4266.8	4226.9	4247.2	4262.8	4299.7	4339.0
18°	4544.0	4518.7	4460.9	4377.4	4294.2	4237.2	4195.5	4217.0	4237.4	4279.4	4324.4
19°	4540.6	4512.4	4450.0	4359.4	4266.0	4203.3	4164.5	4186.6	4210.1	4257.1	4307.8
20°	4537.0	4506.1	4438.6	4340.9	4237.3	4169.2	4130.1	4154.9	4184.1	4234.4	4291.2
21°	4530.6	4500.6	4426.3	4320.8	4210.3	4131.0	4096.6	4122.9	4156.0	4214.0	4274.0
22°	4523.6	4491.7	4413.3	4301.1	4179.0	4094.0	4060.8	4087.1	4126.8	4190.2	4255.1
23°	4516.5	4482.3	4399.9	4279.2	4147.3	4053.0	4021.9	4053.4	4094.5	4166.2	4235.4
24°	4510.9	4475.1	4386.2	4259.0	4116.0	4011.5	3983.0	4016.5	4060.9	4137.9	4213.9
25°	4503.9	4463.8	4371.6	4233.6	4083.1	3968.7	3940.1	3980.6	4025.9	4111.9	4193.7
26°	4497.2	4455.4	4356.0	4211.5	4050.5	3924.7	3896.4	3940.5	3990.7	4084.2	4170.5
27°	4490.9	4444.8	4340.7	4186.9	4014.4	3881.2	3851.2	3899.9	3954.3	4055.5	4149.1
28°	4480.3	4434.1	4322.7	4160.8	3980.3	3835.1	3806.0	3857.7	3917.9	4025.0	4122.9
29°	4469.3	4420.7	4305.9	4133.8	3942.3	3789.8	3757.2	3814.2	3881.4	3996.0	4097.5
30°	4460.6	4407.9	4286.7	4105.7	3903.8	3741.8	3708.7	3767.8	3844.1	3964.6	4068.5
31°	4455.5	4397.3	4265.6	4078.0	3863.9	3693.4	3659.5	3720.0	3804.0	3930.4	4039.6
32°	4450.9	4388.2	4243.3	4048.5	3824.1	3642.5	3609.8	3670.4	3765.5	3896.1	4007.7
33°	4447.7	4379.3	4224.3	4017.1	3780.5	3591.9	3557.8	3618.7	3723.8	3860.1	3973.3
34°	4446.4	4371.9	4204.4	3985.2	3738.5	3540.8	3505.0	3568.1	3684.3	3823.8	3933.8
35°	4444.0	4367.2	4185.0	3952.1	3693.7	3487.1	3449.9	3513.4	3639.3	3783.6	3893.3
36°	4446.3	4361.1	4167.1	3917.4	3648.6	3432.4	3392.2	3461.0	3596.0	3743.2	3849.5
37°	4450.0	4359.5	4152.5	3883.9	3601.1	3375.6	3333.9	3405.6	3548.5	3699.2	3802.5
38°	4451.8	4358.0	4135.4	3851.2	3553.2	3318.7	3273.5	3349.6	3499.4	3653.6	3753.2
39°	4454.2	4354.1	4120.5	3815.6	3505.3	3257.1	3210.6	3293.2	3447.9	3603.3	3700.9
40°	4453.2	4348.1	4107.8	3784.3	3452.7	3194.9	3146.7	3237.0	3396.9	3552.5	3648.8
41°	4454.6	4341.8	4091.1	3752.5	3400.2	3132.1	3082.0	3180.8	3345.4	3499.7	3589.3
42°	4458.4	4338.0	4072.7	3725.0	3348.7	3067.6	3015.1	3121.8	3291.4	3443.2	3530.4
43°	4463.0	4334.4	4053.2	3692.0	3296.7	3002.6	2948.1	3062.1	3234.8	3384.8	3462.7
44°	4475.6	4334.8	4036.3	3660.5	3244.9	2934.5	2881.3	3002.7	3179.6	3321.9	3392.6



REPORT NUMBER: P1449886

CATALOG NUMBER: TWC150_T4_90W_5000K

CANDELA DISTRIBUTION (continued):

	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°
45°	4492.1	4343.4	4017.2	3626.9	3196.6	2868.5	2809.2	2941.0	3119.7	3257.8	3314.5
46°	4504.6	4354.1	3998.7	3592.9	3149.4	2797.1	2739.6	2877.1	3059.2	3191.9	3230.9
47°	4520.5	4357.3	3986.7	3556.1	3103.0	2731.6	2668.1	2814.8	2997.8	3124.8	3140.8
48°	4530.4	4364.4	3984.9	3517.3	3059.0	2661.5	2595.9	2747.6	2932.7	3047.6	3044.4
49°	4541.3	4366.1	3973.6	3483.9	3014.7	2595.5	2520.7	2683.3	2865.4	2968.3	2941.2
50°	4545.0	4374.4	3959.1	3444.7	2971.7	2525.8	2445.0	2612.5	2796.4	2881.1	2832.2
51°	4533.4	4379.3	3942.5	3411.9	2926.6	2458.7	2370.2	2541.2	2723.4	2790.3	2717.8
52°	4504.5	4362.3	3922.6	3380.9	2883.8	2391.8	2292.3	2465.9	2647.3	2692.1	2584.9
53°	4476.8	4327.2	3905.5	3347.7	2832.6	2325.5	2213.9	2389.5	2569.8	2589.6	2422.5
54°	4475.0	4298.5	3876.2	3304.8	2775.7	2259.9	2134.5	2311.1	2490.0	2481.3	2217.1
55°	4490.0	4299.5	3834.1	3263.2	2714.8	2189.8	2054.6	2230.4	2404.9	2367.4	1958.4
56°	4501.3	4307.1	3793.8	3216.5	2648.6	2121.8	1976.2	2153.2	2314.7	2245.5	1665.0
57°	4526.2	4313.0	3778.4	3171.8	2580.2	2047.5	1896.2	2072.5	2217.9	2116.5	1384.0
58°	4594.0	4332.7	3776.8	3119.7	2513.9	1970.7	1818.8	1991.6	2115.7	1957.5	1103.2
59°	4700.9	4402.9	3769.8	3041.2	2448.3	1885.2	1742.6	1901.5	2006.6	1764.8	824.5
60°	4819.9	4507.1	3762.1	2962.6	2375.9	1795.3	1668.7	1815.9	1901.8	1508.2	659.2
61°	4899.2	4625.4	3783.8	2897.2	2301.3	1699.6	1595.9	1721.8	1791.7	1251.7	541.7
62°	4888.2	4686.5	3859.6	2850.3	2217.1	1604.6	1523.7	1626.4	1681.7	995.3	477.0
63°	4795.9	4650.9	3970.8	2807.9	2129.5	1507.0	1451.9	1531.1	1564.1	757.2	445.3
64°	4609.6	4527.1	4068.3	2771.3	2033.5	1409.9	1377.2	1433.3	1441.6	581.2	426.5
65°	4359.8	4300.9	4063.6	2755.2	1922.5	1314.7	1299.9	1341.5	1299.7	468.5	409.6
66°	4096.4	4022.4	3935.1	2781.3	1795.4	1218.1	1222.5	1250.4	1157.8	407.2	393.0
67°	3769.5	3747.0	3678.7	2895.5	1670.9	1132.0	1144.7	1159.2	1014.5	379.1	375.4
68°	3402.6	3368.5	3342.1	3062.3	1559.5	1044.6	1052.9	1062.8	807.9	360.1	357.2
69°	3143.1	3063.9	2991.5	3099.1	1461.2	964.1	960.6	977.9	600.5	341.9	338.9
70°	3011.9	2878.3	2637.4	2888.1	1366.1	883.6	865.2	893.0	445.6	323.0	321.0
71°	2897.7	2779.6	2389.4	2436.3	1283.6	811.0	772.8	813.1	357.8	303.3	303.6
72°	2786.2	2672.5	2256.9	1985.1	1247.2	740.9	683.1	729.3	314.4	283.8	287.4
73°	2665.2	2563.8	2148.5	1682.7	1380.9	671.7	597.5	643.5	290.0	264.5	273.6
74°	2540.9	2452.5	2032.9	1559.8	1740.5	604.9	519.2	559.4	268.4	246.5	258.3
75°	2385.6	2333.1	1905.8	1448.3	1529.6	534.2	445.5	471.4	245.9	229.6	238.6
76°	2218.8	2197.0	1785.4	1357.7	968.1	463.3	382.0	392.3	225.7	213.7	218.5
77°	2028.8	2056.3	1648.6	1271.5	688.4	392.5	321.6	310.5	205.9	198.0	197.4
78°	1811.2	1898.5	1518.2	1127.8	589.3	356.5	268.6	248.2	187.5	179.2	176.2
79°	1591.2	1711.6	1415.7	907.6	637.8	313.9	221.2	209.0	169.0	159.2	157.7
80°	1359.6	1515.2	1301.2	763.0	676.1	270.4	181.3	182.9	152.3	139.2	139.2
81°	1139.0	1300.3	1170.1	685.3	533.1	246.9	147.8	159.5	135.6	119.1	120.9
82°	944.8	1091.3	1023.2	620.6	389.6	215.9	114.4	136.2	118.9	96.3	109.9
83°	787.8	928.0	813.1	526.8	246.2	192.6	88.6	112.8	99.8	77.0	96.4
84°	561.5	715.0	667.3	432.2	206.8	155.3	66.2	90.8	80.5	65.9	80.7
85°	403.8	525.8	514.2	337.6	176.9	99.0	48.3	70.9	62.0	54.7	63.6
86°	246.7	337.4	361.0	145.7	144.8	65.0	33.2	52.4	44.1	40.7	45.0
87°	103.3	149.0	207.9	57.3	100.9	52.1	23.0	35.0	31.8	28.7	31.9
88°	51.5	74.1	105.1	41.7	31.9	39.2	12.9	23.5	21.5	16.8	18.8
89°	1.6	1.5	2.5	27.9	24.0	26.4	3.0	12.0	11.3	5.0	6.0



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 CATALOG NUMBER: TWC150_T4_90W_5000K

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: P1449886
 CATALOG NUMBER: TWC150_T4_90W_5000K

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: P1449886
CATALOG NUMBER: TWC150_T4_90W_5000K

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: P1449886

CATALOG NUMBER: TWC150_T4_90W_5000K

CANDELA DISTRIBUTION (continued):

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
0°	4491.3	4491.3	4491.3	4491.3	4491.3	4491.3	4491.3	4491.3	4491.3	4491.3	4491.3
1°	4485.3	4485.7	4486.6	4487.5	4485.5	4486.4	4488.8	4493.6	4494.9	4497.1	4498.4
2°	4481.4	4482.7	4482.0	4482.4	4481.8	4482.4	4484.9	4493.2	4493.7	4498.9	4501.9
3°	4479.8	4482.1	4481.0	4479.6	4477.8	4477.8	4480.7	4490.2	4493.2	4500.2	4505.2
4°	4485.6	4488.4	4485.8	4481.1	4475.0	4471.6	4473.5	4483.7	4490.6	4497.8	4506.8
5°	4487.9	4490.4	4488.8	4484.0	4475.2	4466.3	4466.5	4478.3	4485.8	4498.2	4508.5
6°	4482.8	4483.9	4484.9	4483.0	4475.4	4459.7	4456.1	4469.3	4480.0	4495.3	4508.3
7°	4472.5	4473.9	4474.9	4475.8	4470.3	4455.7	4446.8	4458.6	4472.0	4491.1	4507.1
8°	4459.0	4462.5	4462.7	4463.1	4461.9	4451.6	4434.8	4445.8	4463.5	4485.8	4506.5
9°	4449.5	4452.6	4454.2	4450.1	4450.1	4444.7	4421.3	4433.5	4453.4	4479.0	4502.9
10°	4438.3	4442.5	4442.8	4437.7	4434.5	4433.4	4408.4	4418.6	4440.4	4471.1	4497.0
11°	4429.9	4435.8	4433.3	4425.3	4418.5	4417.6	4393.4	4401.1	4427.4	4460.2	4491.8
12°	4421.1	4430.5	4426.0	4414.4	4402.8	4400.9	4379.8	4383.3	4413.3	4446.5	4485.3
13°	4414.6	4422.9	4416.6	4402.4	4385.4	4380.1	4362.7	4364.5	4396.1	4431.9	4478.7
14°	4403.8	4412.2	4407.8	4392.3	4370.2	4358.1	4344.3	4343.5	4376.9	4416.9	4467.6
15°	4393.5	4403.5	4398.3	4381.0	4352.5	4335.8	4323.4	4319.4	4356.4	4398.6	4454.4
16°	4380.4	4392.3	4386.0	4365.7	4336.8	4311.6	4301.1	4295.1	4332.0	4378.8	4437.6
17°	4365.9	4379.7	4373.3	4351.9	4319.2	4287.0	4276.6	4267.3	4305.4	4354.7	4421.6
18°	4354.5	4369.7	4361.8	4337.5	4299.5	4261.1	4248.6	4240.6	4276.4	4328.6	4406.6
19°	4341.7	4358.1	4349.8	4321.1	4279.0	4238.6	4220.5	4209.3	4244.5	4302.0	4388.4
20°	4327.4	4343.9	4335.1	4305.3	4257.5	4212.0	4188.4	4176.5	4209.3	4277.2	4373.6
21°	4313.4	4331.3	4319.3	4289.3	4235.3	4185.1	4157.8	4142.9	4173.1	4250.7	4356.6
22°	4296.0	4319.2	4304.8	4269.7	4213.2	4156.8	4124.8	4106.8	4137.7	4223.1	4337.4
23°	4282.4	4304.1	4291.1	4249.9	4189.8	4127.1	4091.3	4066.7	4099.4	4193.4	4317.6
24°	4268.3	4289.5	4275.9	4228.2	4165.5	4094.6	4056.6	4029.5	4060.3	4163.7	4297.0
25°	4249.7	4273.0	4259.0	4207.4	4138.9	4061.9	4021.1	3986.6	4019.8	4132.4	4277.0
26°	4231.6	4254.6	4240.0	4186.8	4112.4	4024.2	3982.4	3943.7	3977.4	4100.0	4254.7
27°	4211.2	4232.7	4219.2	4165.6	4083.9	3989.9	3942.3	3899.3	3936.1	4068.4	4231.6
28°	4186.4	4211.4	4196.2	4142.3	4055.1	3954.1	3900.5	3855.5	3894.5	4033.5	4207.0
29°	4161.4	4186.6	4171.2	4117.3	4023.6	3916.4	3856.5	3808.1	3847.0	3998.6	4180.2
30°	4134.8	4157.3	4145.2	4091.4	3992.9	3880.0	3812.1	3762.2	3800.7	3960.6	4154.8
31°	4103.0	4125.0	4113.8	4060.4	3961.0	3841.3	3764.4	3712.9	3754.1	3923.8	4128.6
32°	4069.3	4088.8	4079.2	4029.5	3926.7	3803.4	3716.8	3664.9	3706.2	3885.0	4103.6
33°	4030.4	4052.7	4042.1	3992.7	3890.3	3762.8	3664.1	3613.7	3656.7	3845.9	4072.6
34°	3991.2	4012.0	4002.6	3957.3	3854.0	3720.6	3614.9	3562.6	3608.2	3803.6	4044.2
35°	3948.2	3969.5	3960.9	3915.2	3816.6	3676.3	3558.7	3507.3	3555.8	3760.8	4010.9
36°	3904.1	3924.2	3915.3	3873.8	3775.7	3631.9	3506.3	3453.2	3501.5	3718.2	3978.7
37°	3855.1	3877.4	3869.0	3825.6	3733.4	3584.7	3450.1	3394.3	3449.1	3671.5	3945.2
38°	3806.5	3826.7	3820.5	3777.8	3690.2	3537.1	3396.7	3337.3	3390.2	3627.7	3915.4
39°	3752.0	3770.5	3767.4	3724.8	3641.7	3486.9	3339.9	3274.9	3333.0	3578.7	3883.6
40°	3697.0	3711.3	3711.7	3674.0	3590.8	3436.4	3285.7	3212.3	3270.0	3529.9	3851.4
41°	3631.4	3641.4	3648.4	3619.7	3537.4	3386.0	3227.8	3148.0	3212.2	3477.3	3820.1
42°	3558.5	3567.3	3578.8	3560.7	3482.6	3333.2	3168.8	3084.6	3146.6	3426.5	3791.1
43°	3481.7	3482.2	3500.0	3498.4	3424.2	3278.4	3109.4	3016.6	3082.5	3375.5	3763.1
44°	3395.8	3394.9	3420.8	3428.6	3364.9	3223.4	3048.7	2949.9	3016.0	3326.6	3731.4



REPORT NUMBER: P1449886

CATALOG NUMBER: TWC150_T4_90W_5000K

CANDELA DISTRIBUTION (continued):

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
45°	3305.4	3298.2	3329.2	3353.7	3303.1	3165.0	2989.3	2880.4	2950.9	3281.4	3704.3
46°	3205.5	3196.2	3233.4	3272.6	3239.0	3106.9	2925.5	2808.2	2882.4	3231.4	3668.3
47°	3101.8	3085.3	3130.3	3186.8	3173.0	3046.7	2863.1	2736.9	2814.7	3188.4	3633.6
48°	2989.7	2964.4	3020.6	3092.8	3102.8	2983.1	2797.0	2662.2	2745.5	3141.1	3596.3
49°	2863.7	2806.3	2897.8	2992.7	3025.6	2917.1	2729.4	2591.4	2676.1	3101.9	3566.5
50°	2702.4	2613.5	2749.4	2889.5	2943.1	2850.6	2660.6	2514.0	2607.2	3058.1	3528.6
51°	2501.0	2360.1	2557.5	2775.5	2855.4	2779.7	2588.5	2438.8	2538.4	3018.9	3494.5
52°	2237.2	2058.1	2309.6	2653.6	2761.9	2707.7	2516.4	2359.7	2472.6	2970.8	3464.8
53°	1940.9	1734.2	2019.1	2510.6	2664.4	2629.3	2441.0	2283.3	2403.6	2921.4	3431.0
54°	1635.7	1450.3	1692.3	2328.1	2561.5	2551.8	2367.8	2204.5	2340.5	2867.9	3394.5
55°	1330.4	1166.4	1414.0	2092.8	2450.6	2468.1	2287.9	2123.1	2271.6	2809.9	3350.4
56°	1027.0	885.1	1135.8	1816.9	2335.5	2382.0	2209.0	2043.7	2204.6	2746.4	3309.3
57°	811.2	720.0	858.9	1522.4	2213.9	2288.6	2126.5	1959.9	2131.5	2676.3	3265.3
58°	666.2	609.6	698.2	1227.9	2081.4	2189.6	2043.7	1881.9	2054.9	2613.2	3217.2
59°	568.7	541.0	590.2	936.1	1923.2	2087.9	1956.7	1801.6	1972.1	2544.9	3145.7
60°	513.6	507.9	525.7	734.8	1725.5	1986.3	1869.1	1729.1	1880.7	2476.1	3069.9
61°	488.2	491.0	493.3	595.3	1461.8	1879.2	1777.2	1654.0	1789.5	2400.0	2999.2
62°	471.3	476.0	475.9	506.8	1198.1	1770.9	1683.9	1581.8	1689.1	2320.8	2951.6
63°	456.2	462.4	460.2	459.8	935.6	1661.0	1591.7	1508.6	1593.8	2235.9	2912.5
64°	441.3	447.6	445.6	435.4	710.8	1549.8	1495.9	1436.1	1491.1	2145.4	2875.6
65°	425.5	431.3	430.2	418.0	550.8	1435.7	1403.0	1358.5	1395.8	2043.1	2856.1
66°	408.7	416.1	412.6	401.4	454.9	1300.1	1311.1	1275.6	1296.1	1916.0	2876.9
67°	393.5	402.5	396.9	383.8	402.1	1164.4	1219.2	1189.0	1207.1	1789.2	2977.0
68°	378.3	388.5	382.0	365.5	375.0	1028.7	1127.3	1095.3	1119.1	1670.0	3152.3
69°	363.2	374.3	366.2	346.4	355.8	822.5	1039.5	1004.0	1033.1	1572.9	3233.0
70°	348.3	362.6	351.8	328.0	336.9	609.2	956.7	910.5	951.2	1472.3	3082.2
71°	336.4	350.3	339.3	310.2	317.6	448.6	876.6	816.9	872.2	1385.0	2673.4
72°	322.1	333.1	326.2	293.6	298.9	357.3	796.8	724.6	798.1	1331.2	2203.8
73°	302.6	312.8	307.6	278.4	279.1	310.7	715.5	638.0	727.0	1388.0	1841.2
74°	281.5	290.6	287.7	265.2	260.4	285.0	636.0	562.2	661.7	1743.4	1640.6
75°	259.1	267.6	265.0	246.7	240.9	262.4	551.8	486.8	589.2	1807.3	1528.4
76°	236.9	244.7	242.3	227.0	224.4	240.6	469.6	411.4	522.5	1232.0	1444.7
77°	213.1	221.5	217.3	205.4	207.1	219.7	388.1	349.7	456.1	767.7	1344.4
78°	192.5	204.6	194.7	184.4	190.8	200.5	312.5	292.1	389.6	647.1	1226.8
79°	177.8	190.3	178.8	163.5	170.5	181.2	249.3	242.7	352.1	595.6	999.5
80°	165.6	177.1	165.3	142.6	150.0	162.7	206.5	198.9	308.8	748.9	834.7
81°	147.2	156.1	148.1	121.8	129.5	145.5	178.3	160.6	272.0	557.8	738.8
82°	128.9	135.1	131.0	110.4	109.0	128.2	154.1	128.3	245.4	412.0	669.3
83°	110.5	114.2	113.8	98.9	84.2	111.0	129.9	98.9	220.4	267.3	604.8
84°	88.7	91.3	91.8	83.8	68.9	91.1	105.6	75.2	196.0	221.7	466.4
85°	64.5	66.7	69.4	68.5	57.9	71.9	83.8	58.3	136.2	191.4	326.2
86°	47.8	50.3	50.8	49.6	45.6	53.2	62.7	41.5	75.1	159.9	186.0
87°	33.9	35.7	36.1	33.7	31.7	37.9	44.8	24.7	52.2	110.9	78.0
88°	20.1	21.0	21.5	23.3	21.9	25.8	30.2	13.2	29.5	62.5	39.1
89°	6.4	6.6	7.0	13.0	12.2	13.8	15.7	4.8	6.9	47.0	1.0



REPORT NUMBER: P1449886
 CATALOG NUMBER: TWC150_T4_90W_5000K

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: P1449886
 CATALOG NUMBER: TWC150_T4_90W_5000K

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: P1449886
CATALOG NUMBER: TWC150_T4_90W_5000K

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: P1449886
 CATALOG NUMBER: TWC150_T4_90W_5000K

CANDELA DISTRIBUTION (continued):

	330°	345°	360°
0°	4491.3	4491.3	4491.3
1°	4498.2	4499.2	4499.6
2°	4504.1	4505.2	4505.7
3°	4509.3	4510.2	4510.8
4°	4512.0	4515.6	4515.6
5°	4513.7	4519.4	4519.8
6°	4517.2	4524.9	4526.0
7°	4520.5	4527.7	4530.8
8°	4522.3	4532.7	4537.5
9°	4523.6	4536.8	4543.4
10°	4523.8	4541.7	4548.9
11°	4524.3	4544.4	4550.8
12°	4521.7	4544.0	4550.3
13°	4517.5	4543.1	4549.9
14°	4512.2	4543.1	4549.4
15°	4504.6	4540.4	4548.9
16°	4495.2	4535.1	4548.5
17°	4488.8	4532.9	4547.1
18°	4478.3	4528.3	4544.0
19°	4470.9	4524.5	4540.6
20°	4462.0	4519.3	4537.0
21°	4452.3	4512.7	4530.6
22°	4439.0	4505.4	4523.6
23°	4426.4	4496.1	4516.5
24°	4413.0	4488.2	4510.9
25°	4398.1	4480.3	4503.9
26°	4385.2	4470.7	4497.2
27°	4368.5	4460.1	4490.9
28°	4354.7	4452.7	4480.3
29°	4337.1	4439.0	4469.3
30°	4320.5	4427.1	4460.6
31°	4301.4	4415.8	4455.5
32°	4280.8	4408.1	4450.9
33°	4262.3	4400.6	4447.7
34°	4244.7	4396.1	4446.4
35°	4226.4	4388.2	4444.0
36°	4209.7	4385.6	4446.3
37°	4194.9	4383.8	4450.0
38°	4179.6	4382.5	4451.8
39°	4169.7	4381.8	4454.2
40°	4155.6	4376.9	4453.2
41°	4142.5	4370.8	4454.6
42°	4124.6	4368.1	4458.4
43°	4107.8	4366.8	4463.0
44°	4090.4	4366.5	4475.6



REPORT NUMBER: P1449886
 CATALOG NUMBER: TWC150_T4_90W_5000K

CANDELA DISTRIBUTION (continued):

	330°	345°	360°
45°	4075.0	4375.7	4492.1
46°	4056.6	4384.8	4504.6
47°	4048.6	4391.8	4520.5
48°	4044.9	4399.5	4530.4
49°	4034.5	4405.3	4541.3
50°	4022.6	4412.0	4545.0
51°	4007.0	4412.7	4533.4
52°	3992.8	4396.8	4504.5
53°	3977.4	4360.8	4476.8
54°	3954.7	4335.2	4475.0
55°	3914.2	4333.3	4490.0
56°	3870.0	4345.6	4501.3
57°	3846.1	4350.9	4526.2
58°	3842.4	4371.2	4594.0
59°	3836.4	4437.5	4700.9
60°	3832.2	4539.3	4819.9
61°	3852.7	4657.5	4899.2
62°	3922.8	4723.7	4888.2
63°	4034.6	4693.5	4795.9
64°	4144.4	4576.4	4609.6
65°	4151.2	4365.9	4359.8
66°	4046.2	4086.8	4096.4
67°	3815.2	3808.0	3769.5
68°	3494.0	3434.6	3402.6
69°	3137.7	3104.9	3143.1
70°	2779.2	2906.0	3011.9
71°	2489.4	2800.0	2897.7
72°	2331.7	2699.3	2786.2
73°	2217.4	2581.5	2665.2
74°	2104.9	2473.9	2540.9
75°	1975.4	2346.1	2385.6
76°	1845.6	2212.5	2218.8
77°	1703.6	2066.8	2028.8
78°	1569.0	1917.8	1811.2
79°	1459.1	1731.8	1591.2
80°	1352.0	1533.8	1359.6
81°	1227.9	1314.0	1139.0
82°	1079.5	1100.9	944.8
83°	883.8	948.7	787.8
84°	704.2	746.0	561.5
85°	553.0	555.2	403.8
86°	403.7	364.8	246.7
87°	254.3	174.3	103.3
88°	20.5	87.0	51.5
89°	10.6	1.3	1.6



REPORT NUMBER: P1449886
CATALOG NUMBER: TWC150_T4_90W_5000K

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: P1449886
CATALOG NUMBER: TWC150_T4_90W_5000K

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

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

Scaled Data Report



REPORT NUMBER: P1449886
CATALOG NUMBER: TWC150_T4_90W_5000K

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: SP1-2601-659-3

Test Date: 02/12/2026

Luminaire Tested: MWP2460W34VDDKYYAD-T4-24W-5000K

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

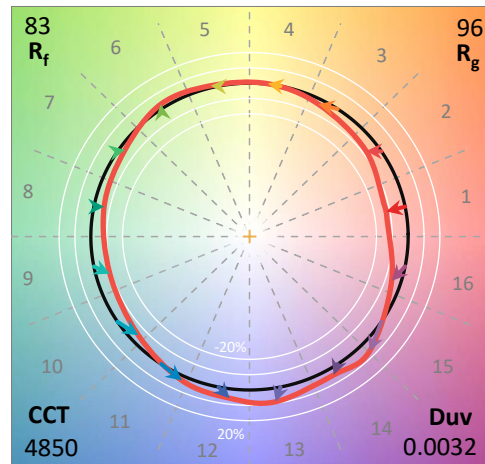
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2601-659-3
 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-5000K**
 Description: Mester Wedge, at T4 beam setting, 24W output, 5000K

Spectral Parameters

CCT (K): 4850
 CIE u': 0.2108
 CIE v': 0.4905
 Duv: 0.0032
 CIE x: 0.3503
 CIE y: 0.3623
 CIE z: 0.2875
 Peak Wavelength (nm): 452
 Dominant Wavelength (nm): 571
 Purity: 13.81051
 R_f: 83.1
 R_g: 95.8

CRI (Ra):	82.6		
R1:	80.9	R9:	8.5
R2:	87.6	R10:	69.7
R3:	92.0	R11:	80.6
R4:	81.9	R12:	52.2
R5:	80.4	R13:	82.7
R6:	82.0	R14:	95.7
R7:	88.2	R15:	74.9
R8:	67.7		



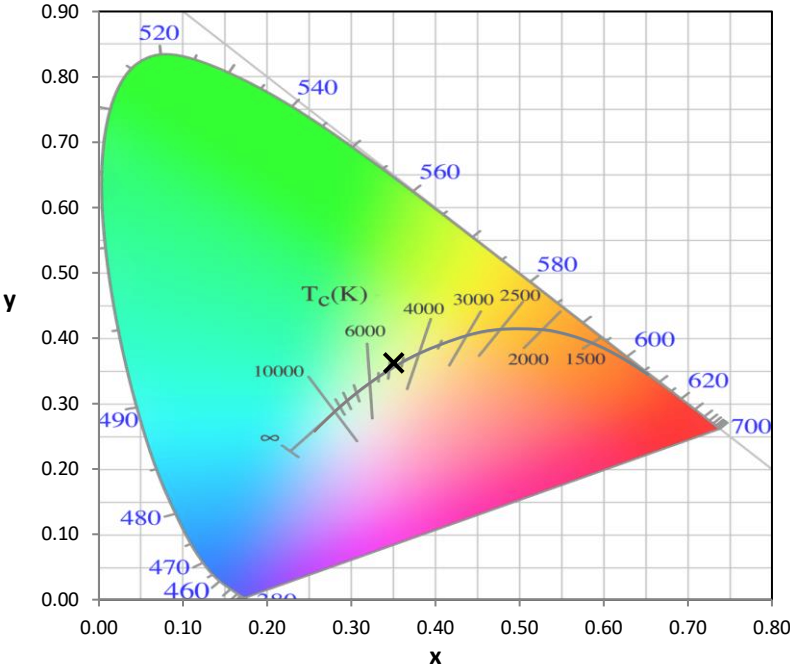
Test Conditions
 Stabilization Time: 25M
 Operation Time: 1H 25M
 Sphere Temperature (°C): 24.8

REPORT NUMBER: SP1-2601-659-3

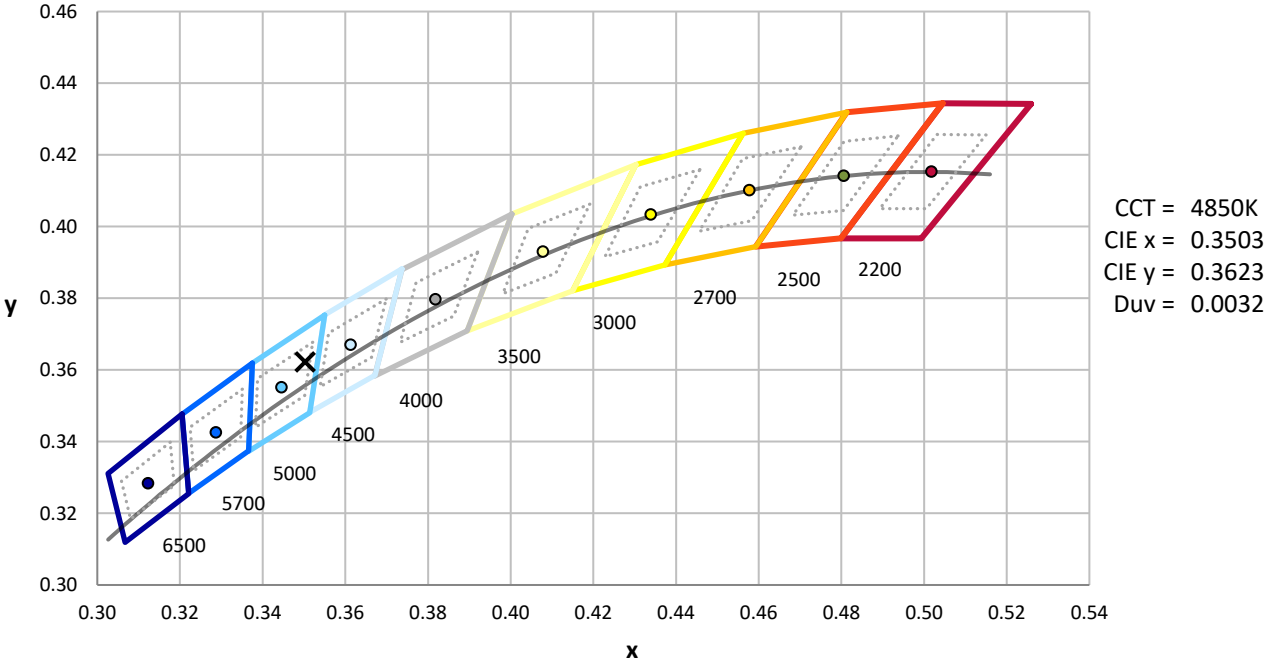
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208	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: SP1-2601-659-3

CIE 1931 Chromaticity Diagram



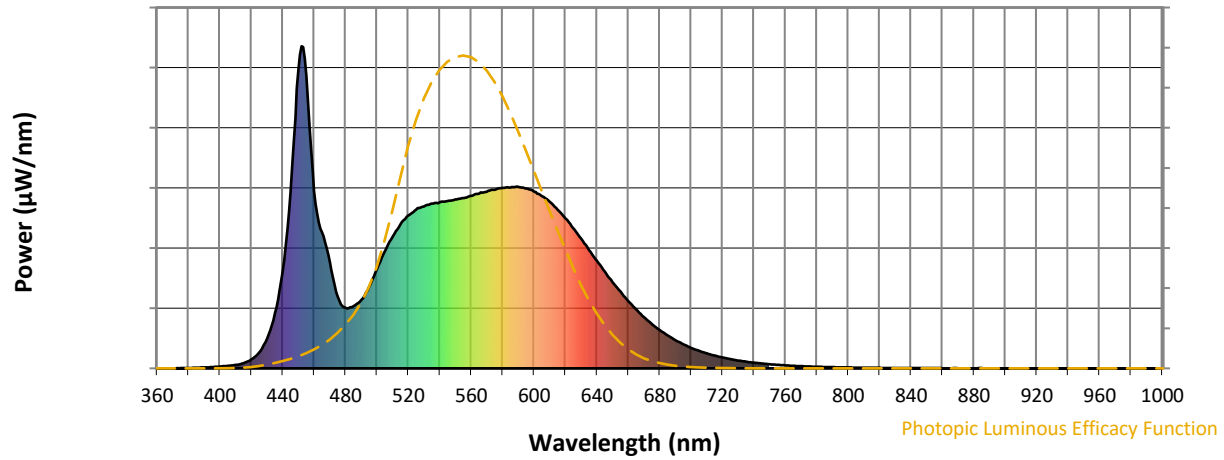
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 5000K 4-step quadrangle

REPORT NUMBER: SP1-2601-659-3

Photopic Flux vs. Wavelength

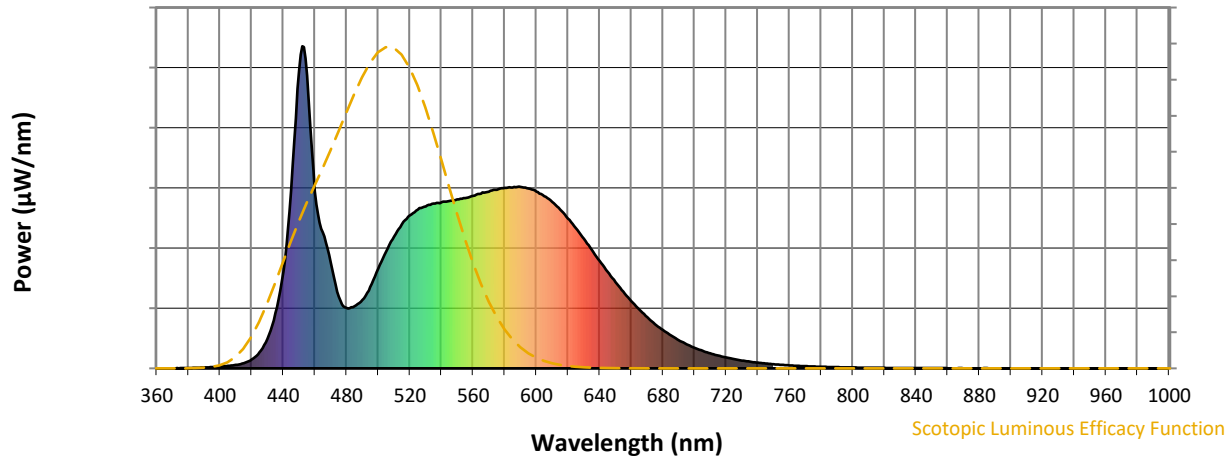


Photopic Lumens: NR

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	212	NR	620	465	NR	750	13	NR	880	0	NR
365	0	NR	495	253	NR	625	436	NR	755	11	NR	885	1	NR
370	0	NR	500	309	NR	630	403	NR	760	9	NR	890	0	NR
375	1	NR	505	363	NR	635	368	NR	765	8	NR	895	0	NR
380	1	NR	510	409	NR	640	334	NR	770	7	NR	900	0	NR
385	2	NR	515	448	NR	645	300	NR	775	6	NR	905	0	NR
390	3	NR	520	475	NR	650	268	NR	780	5	NR	910	0	NR
395	4	NR	525	493	NR	655	238	NR	785	4	NR	915	0	NR
400	6	NR	530	503	NR	660	209	NR	790	4	NR	920	0	NR
405	8	NR	535	512	NR	665	183	NR	795	3	NR	925	0	NR
410	11	NR	540	515	NR	670	159	NR	800	3	NR	930	0	NR
415	16	NR	545	520	NR	675	138	NR	805	2	NR	935	0	NR
420	28	NR	550	524	NR	680	119	NR	810	2	NR	940	0	NR
425	50	NR	555	528	NR	685	102	NR	815	2	NR	945	0	NR
430	92	NR	560	535	NR	690	88	NR	820	2	NR	950	0	NR
435	171	NR	565	542	NR	695	75	NR	825	1	NR	955	0	NR
440	300	NR	570	548	NR	700	64	NR	830	1	NR	960	0	NR
445	553	NR	575	555	NR	705	55	NR	835	1	NR	965	0	NR
450	925	NR	580	560	NR	710	46	NR	840	1	NR	970	0	NR
455	909	NR	585	562	NR	715	40	NR	845	1	NR	975	0	NR
460	550	NR	590	563	NR	720	34	NR	850	1	NR	980	0	NR
465	422	NR	595	558	NR	725	29	NR	855	1	NR	985	0	NR
470	328	NR	600	548	NR	730	24	NR	860	1	NR	990	0	NR
475	223	NR	605	534	NR	735	21	NR	865	0	NR	995	0	NR
480	188	NR	610	516	NR	740	18	NR	870	0	NR	1000	0	NR
485	193	NR	615	492	NR	745	15	NR	875	0	NR			

REPORT NUMBER: SP1-2601-659-3

Scotopic Flux vs. Wavelength



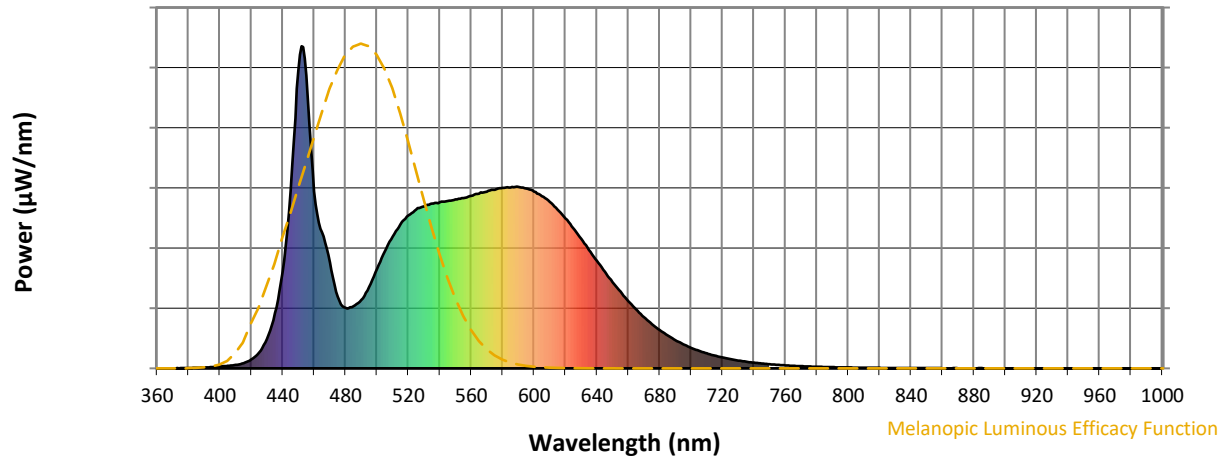
Scotopic Lumens: NR

S/P: 1.9

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	212	NR	620	465	NR	750	13	NR	880	0	NR
365	0	NR	495	253	NR	625	436	NR	755	11	NR	885	1	NR
370	0	NR	500	309	NR	630	403	NR	760	9	NR	890	0	NR
375	1	NR	505	363	NR	635	368	NR	765	8	NR	895	0	NR
380	1	NR	510	409	NR	640	334	NR	770	7	NR	900	0	NR
385	2	NR	515	448	NR	645	300	NR	775	6	NR	905	0	NR
390	3	NR	520	475	NR	650	268	NR	780	5	NR	910	0	NR
395	4	NR	525	493	NR	655	238	NR	785	4	NR	915	0	NR
400	6	NR	530	503	NR	660	209	NR	790	4	NR	920	0	NR
405	8	NR	535	512	NR	665	183	NR	795	3	NR	925	0	NR
410	11	NR	540	515	NR	670	159	NR	800	3	NR	930	0	NR
415	16	NR	545	520	NR	675	138	NR	805	2	NR	935	0	NR
420	28	NR	550	524	NR	680	119	NR	810	2	NR	940	0	NR
425	50	NR	555	528	NR	685	102	NR	815	2	NR	945	0	NR
430	92	NR	560	535	NR	690	88	NR	820	2	NR	950	0	NR
435	171	NR	565	542	NR	695	75	NR	825	1	NR	955	0	NR
440	300	NR	570	548	NR	700	64	NR	830	1	NR	960	0	NR
445	553	NR	575	555	NR	705	55	NR	835	1	NR	965	0	NR
450	925	NR	580	560	NR	710	46	NR	840	1	NR	970	0	NR
455	909	NR	585	562	NR	715	40	NR	845	1	NR	975	0	NR
460	550	NR	590	563	NR	720	34	NR	850	1	NR	980	0	NR
465	422	NR	595	558	NR	725	29	NR	855	1	NR	985	0	NR
470	328	NR	600	548	NR	730	24	NR	860	1	NR	990	0	NR
475	223	NR	605	534	NR	735	21	NR	865	0	NR	995	0	NR
480	188	NR	610	516	NR	740	18	NR	870	0	NR	1000	0	NR
485	193	NR	615	492	NR	745	15	NR	875	0	NR			

REPORT NUMBER: SP1-2601-659-3

Melanopic Flux vs. Wavelength



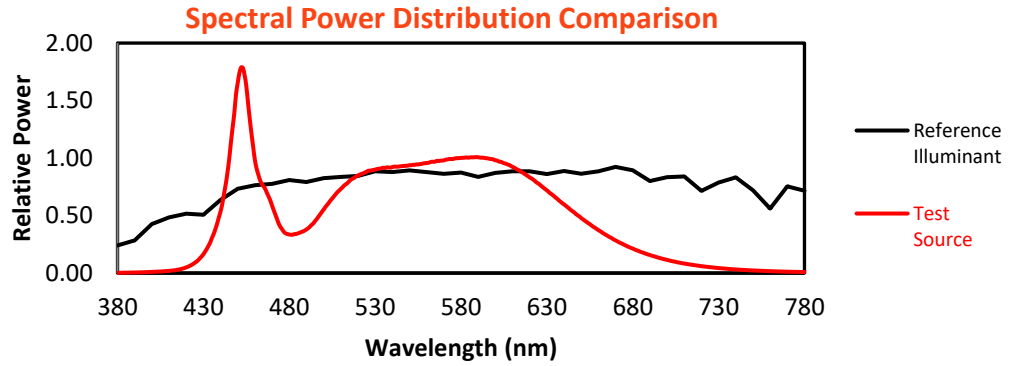
Melanopic Lumens: NR

M/P: 4

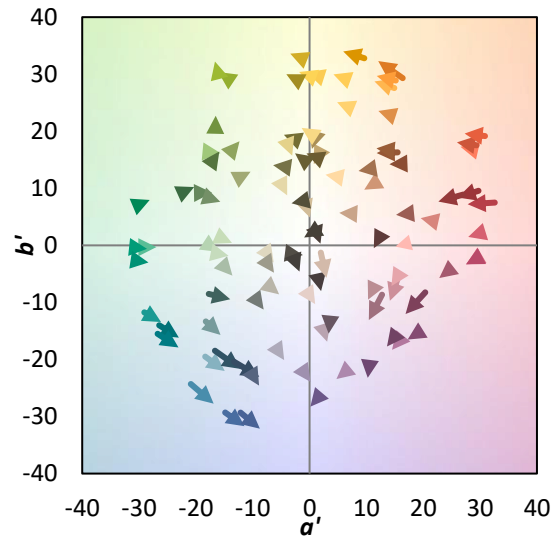
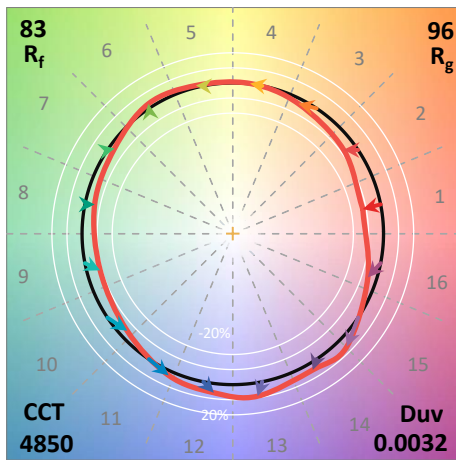
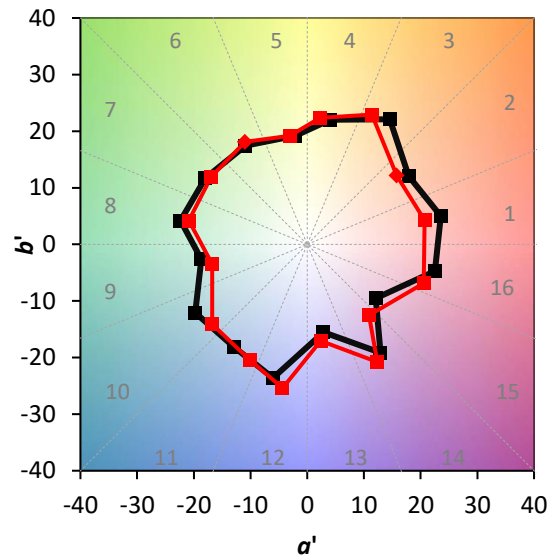
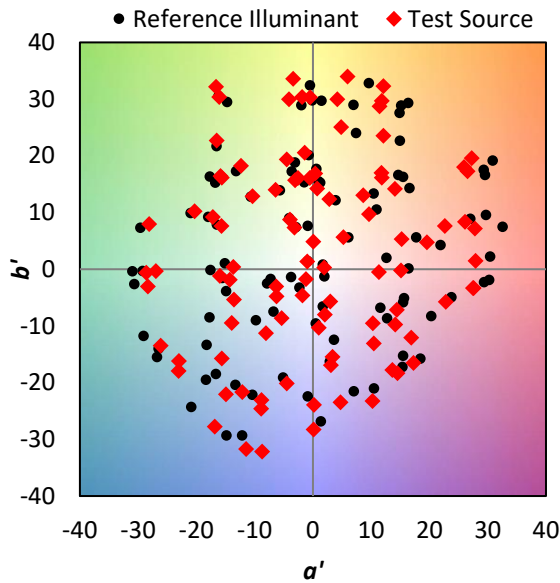
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	212	NR	620	465	NR	750	13	NR	880	0	NR
365	0	NR	495	253	NR	625	436	NR	755	11	NR	885	1	NR
370	0	NR	500	309	NR	630	403	NR	760	9	NR	890	0	NR
375	1	NR	505	363	NR	635	368	NR	765	8	NR	895	0	NR
380	1	NR	510	409	NR	640	334	NR	770	7	NR	900	0	NR
385	2	NR	515	448	NR	645	300	NR	775	6	NR	905	0	NR
390	3	NR	520	475	NR	650	268	NR	780	5	NR	910	0	NR
395	4	NR	525	493	NR	655	238	NR	785	4	NR	915	0	NR
400	6	NR	530	503	NR	660	209	NR	790	4	NR	920	0	NR
405	8	NR	535	512	NR	665	183	NR	795	3	NR	925	0	NR
410	11	NR	540	515	NR	670	159	NR	800	3	NR	930	0	NR
415	16	NR	545	520	NR	675	138	NR	805	2	NR	935	0	NR
420	28	NR	550	524	NR	680	119	NR	810	2	NR	940	0	NR
425	50	NR	555	528	NR	685	102	NR	815	2	NR	945	0	NR
430	92	NR	560	535	NR	690	88	NR	820	2	NR	950	0	NR
435	171	NR	565	542	NR	695	75	NR	825	1	NR	955	0	NR
440	300	NR	570	548	NR	700	64	NR	830	1	NR	960	0	NR
445	553	NR	575	555	NR	705	55	NR	835	1	NR	965	0	NR
450	925	NR	580	560	NR	710	46	NR	840	1	NR	970	0	NR
455	909	NR	585	562	NR	715	40	NR	845	1	NR	975	0	NR
460	550	NR	590	563	NR	720	34	NR	850	1	NR	980	0	NR
465	422	NR	595	558	NR	725	29	NR	855	1	NR	985	0	NR
470	328	NR	600	548	NR	730	24	NR	860	1	NR	990	0	NR
475	223	NR	605	534	NR	735	21	NR	865	0	NR	995	0	NR
480	188	NR	610	516	NR	740	18	NR	870	0	NR	1000	0	NR
485	193	NR	615	492	NR	745	15	NR	875	0	NR			

Summary

$R_f = 83.1$
 $R_g = 95.8$
 CIE $R_a = 82.6$
 $R_9 = 8.5$

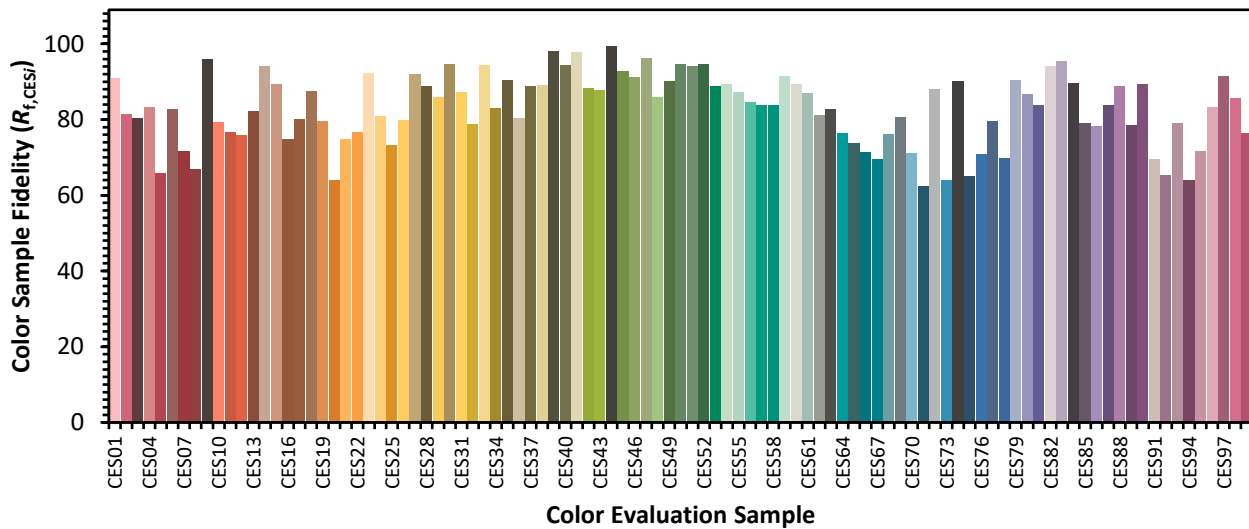


Color Vector Graphics

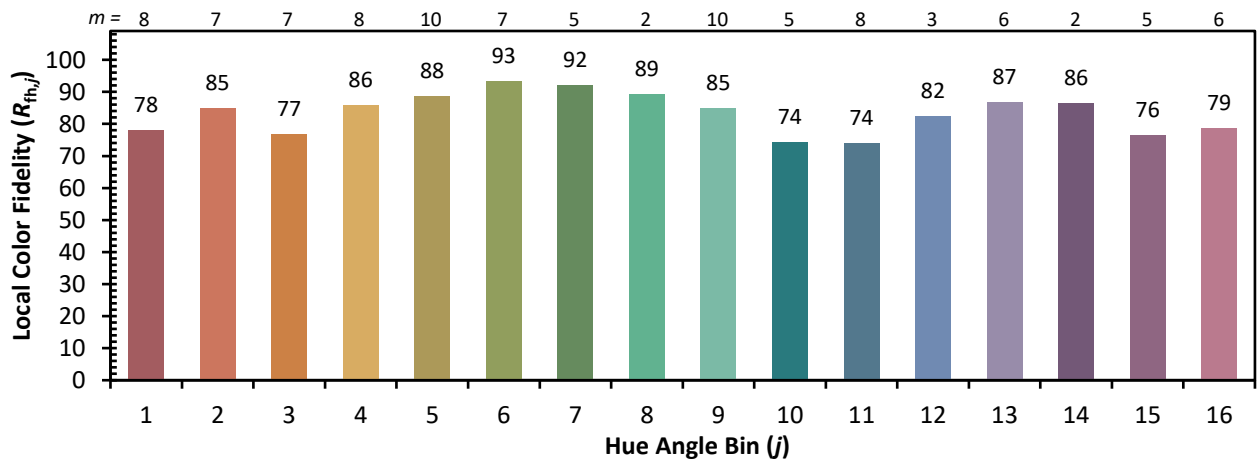
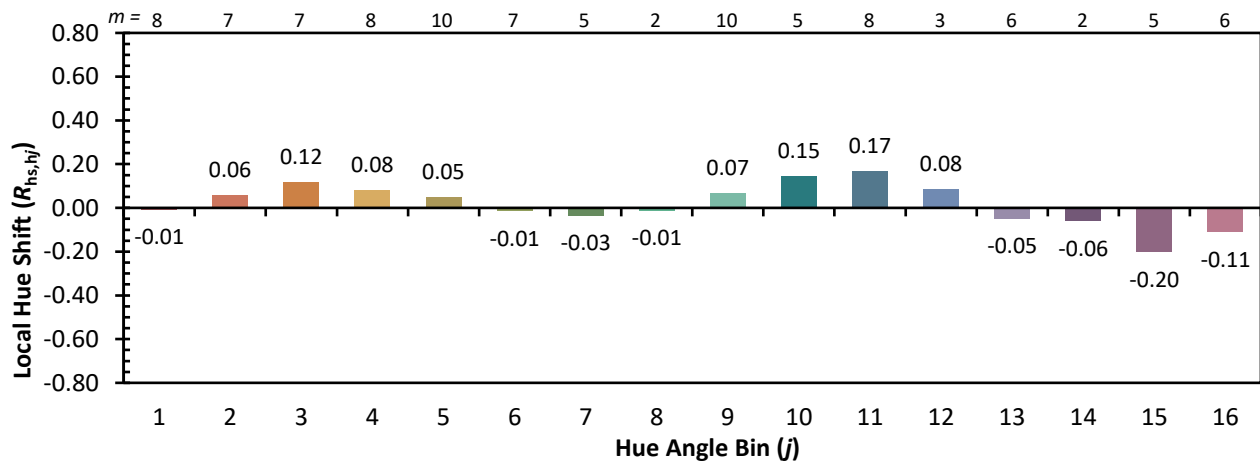
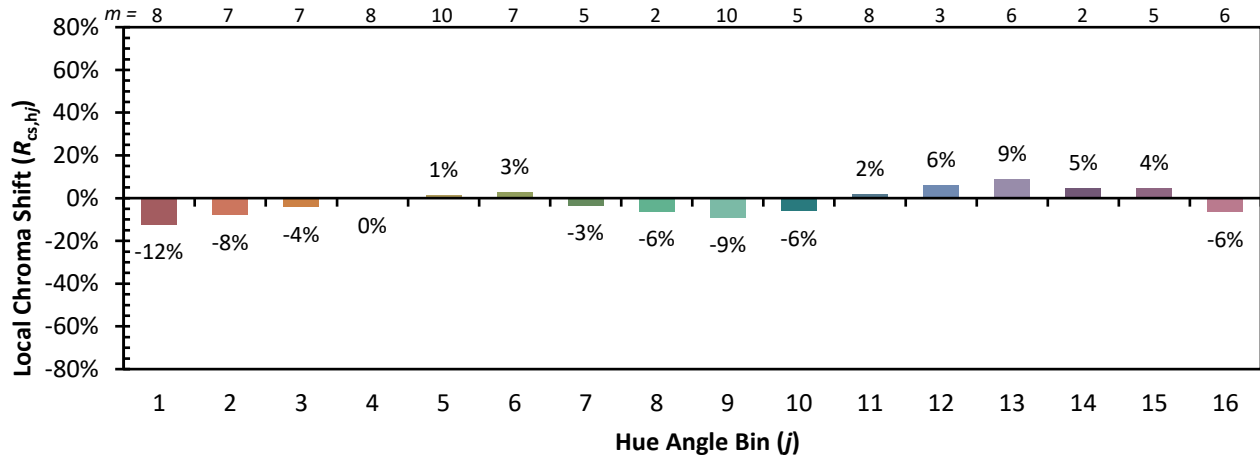


Individual Sample Fidelity Index ($R_{f,i}$)

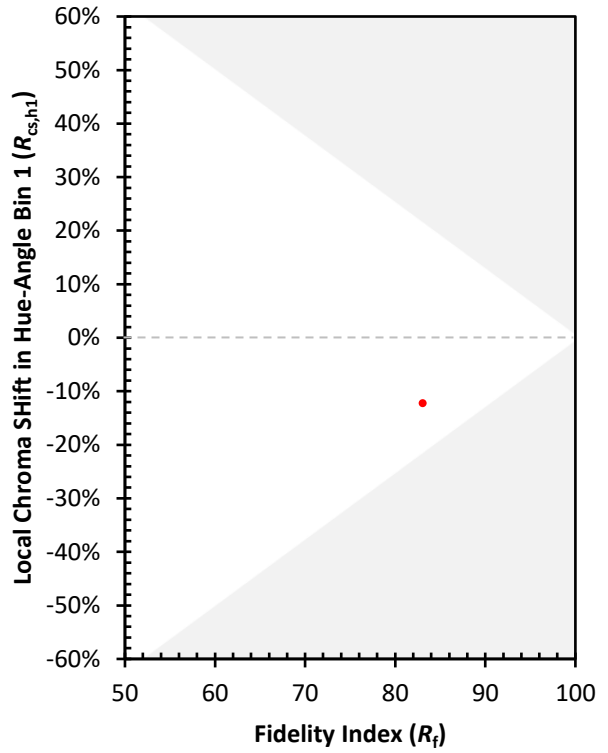
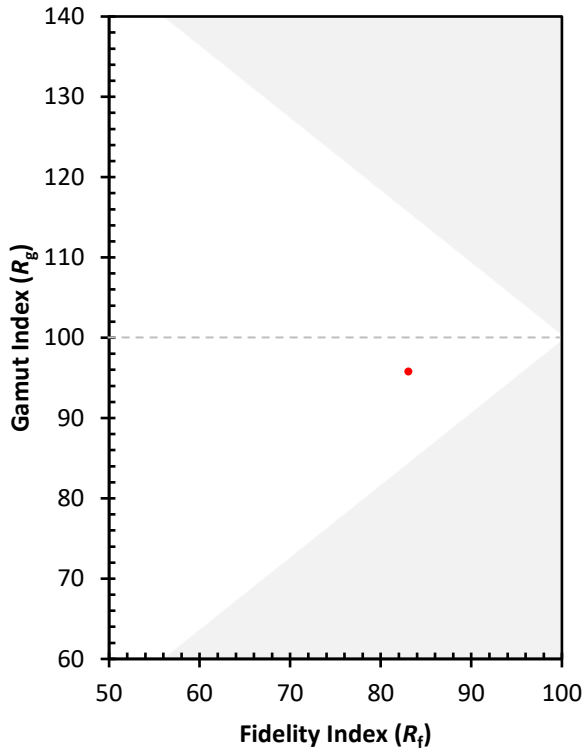
CES01 = 85	CES26 = 80	CES51 = 94	CES76 = 71
CES02 = 60	CES27 = 92	CES52 = 95	CES77 = 80
CES03 = 30	CES28 = 89	CES53 = 89	CES78 = 70
CES04 = 69	CES29 = 86	CES54 = 89	CES79 = 90
CES05 = 47	CES30 = 95	CES55 = 87	CES80 = 87
CES06 = 50	CES31 = 87	CES56 = 85	CES81 = 84
CES07 = 40	CES32 = 79	CES57 = 84	CES82 = 94
CES08 = 39	CES33 = 94	CES58 = 84	CES83 = 95
CES09 = 29	CES34 = 83	CES59 = 91	CES84 = 90
CES10 = 73	CES35 = 90	CES60 = 89	CES85 = 79
CES11 = 56	CES36 = 80	CES61 = 87	CES86 = 78
CES12 = 62	CES37 = 89	CES62 = 81	CES87 = 84
CES13 = 42	CES38 = 89	CES63 = 83	CES88 = 89
CES14 = 74	CES39 = 98	CES64 = 77	CES89 = 79
CES15 = 71	CES40 = 94	CES65 = 74	CES90 = 89
CES16 = 46	CES41 = 98	CES66 = 71	CES91 = 70
CES17 = 49	CES42 = 88	CES67 = 70	CES92 = 65
CES18 = 56	CES43 = 88	CES68 = 76	CES93 = 79
CES19 = 71	CES44 = 99	CES69 = 81	CES94 = 64
CES20 = 64	CES45 = 93	CES70 = 71	CES95 = 72
CES21 = 85	CES46 = 91	CES71 = 62	CES96 = 83
CES22 = 77	CES47 = 96	CES72 = 88	CES97 = 91
CES23 = 91	CES48 = 86	CES73 = 64	CES98 = 86
CES24 = 90	CES49 = 90	CES74 = 90	CES99 = 76
CES25 = 71	CES50 = 95	CES75 = 65	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)