

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: P1449861

Luminaire Tested: **TWC150_T2_90W_4000K**

Issue Date: 5/19/2026

Test Information

Test Method: LM-79-08
Report Number: P1449861
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_4000K
Description: Tapered Wall Cutoff Wall Mount Luminaire at, T2 distribution, 90W
4000K settings
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14888 lumens
Efficiency: N/A
Efficacy: 173.3 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

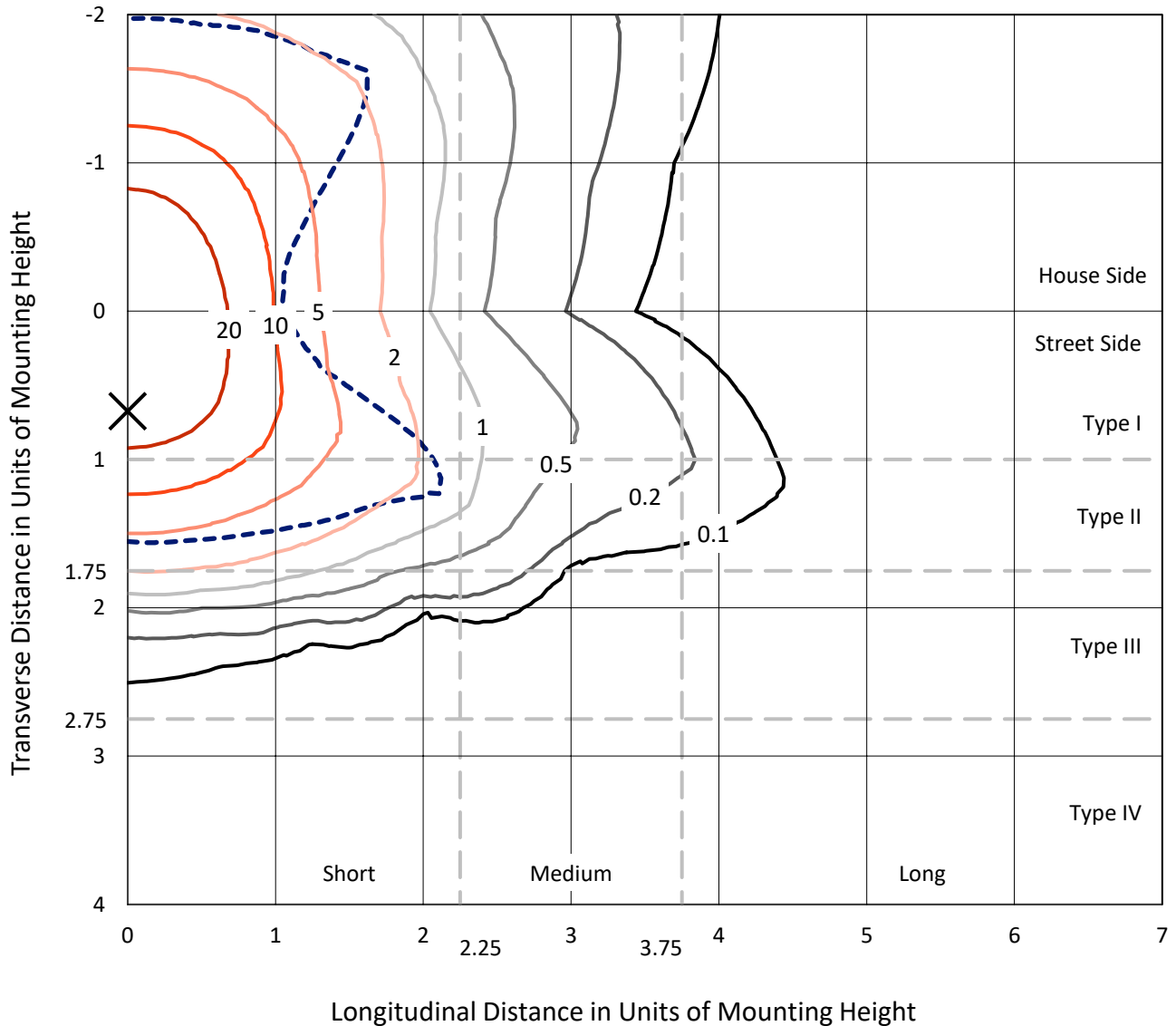
Input Watts (W): 85.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

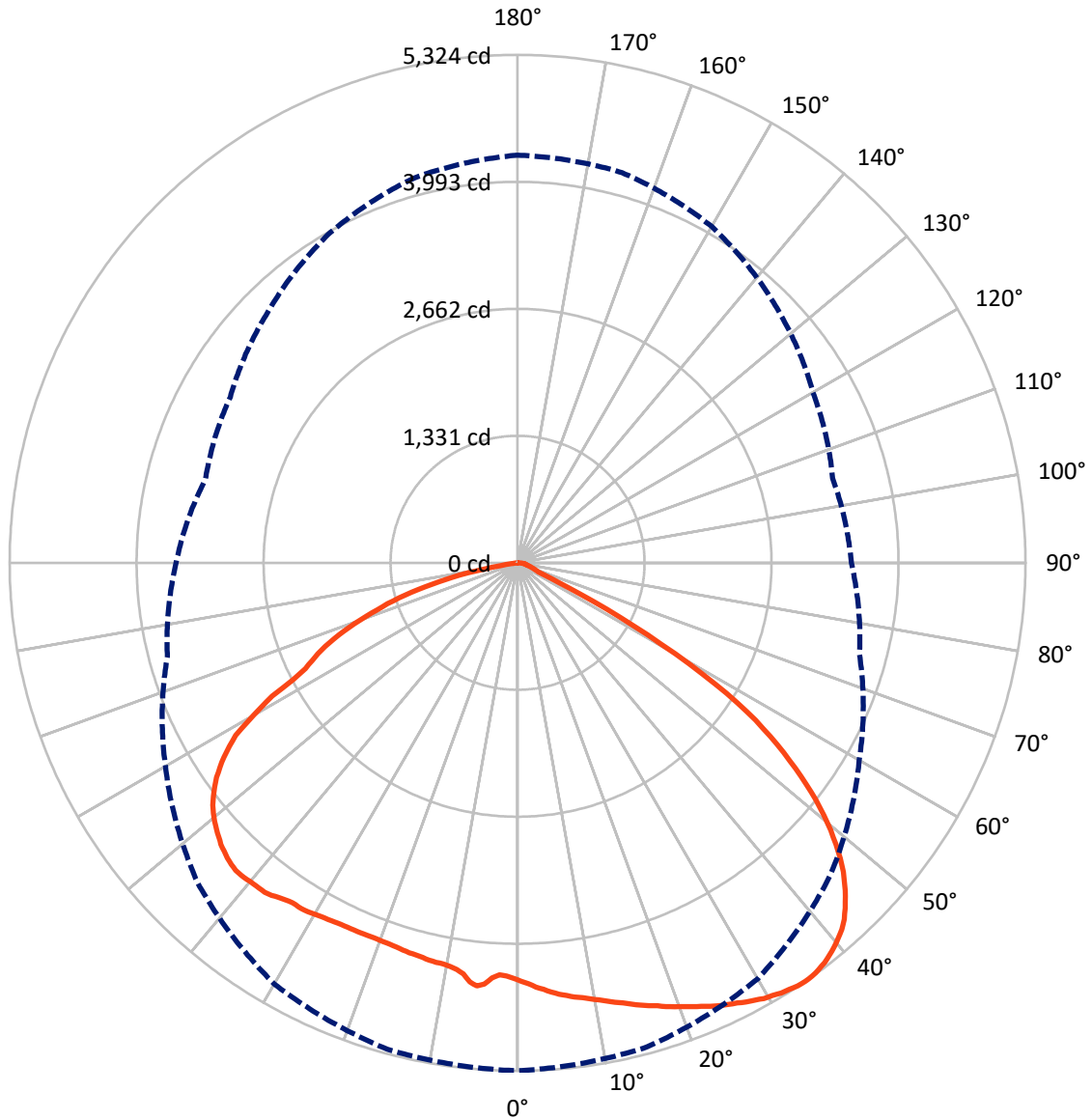
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 44.9 fc
 Type II - Short - N/A

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Luminous Intensity Polar Plot



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

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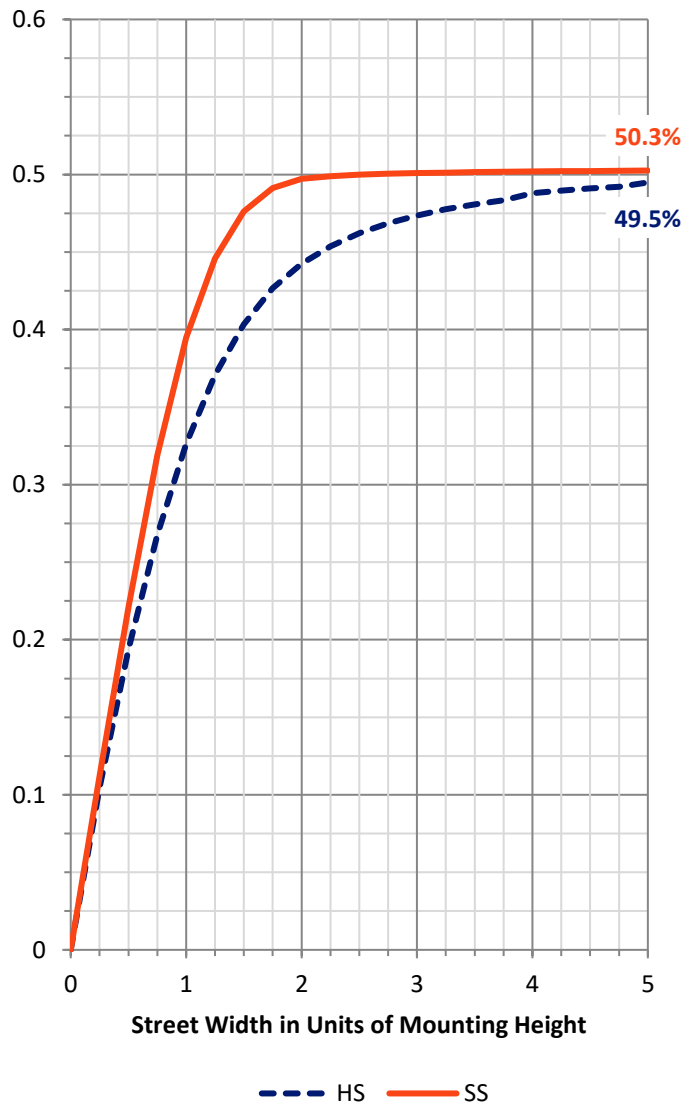
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	7407.4	0.0	7407.4
	% Fixture	49.8	0.0	49.8
Street Side	Lumens	7480.6	0.0	7480.6
	% Fixture	50.2	0.0	50.2
Total	Lumens	14888.0	0.0	14888.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	421.8	2.8
10°-20°	1243.2	8.4
20°-30°	1994.6	13.4
30°-40°	2610.3	17.5
40°-50°	2974.3	20.0
50°-60°	2832.2	19.0
60°-70°	1838.6	12.3
70°-80°	814.9	5.5
80°-90°	158.1	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°	14888.0	100.0
0°-180°	14888.0	100.0

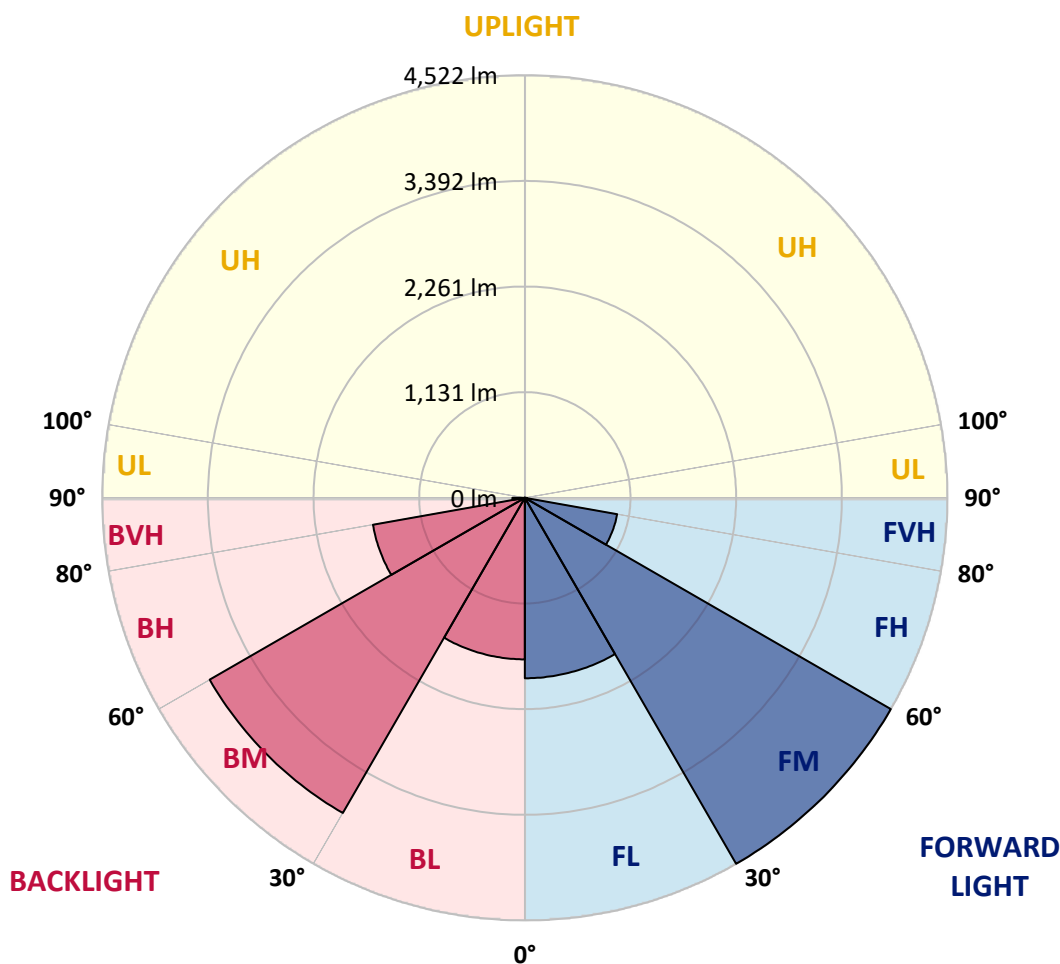


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1930.8	13.0			
FM	(30°-60°)	4522.5	30.4			
FH	(60°-80°)	1003.0	6.7			G1/1800
FVH	(80°-90°)	24.2	0.2			G1/100
BL	(0°-30°)	1728.7	11.6	B3/2500		
BM	(30°-60°)	3894.3	26.2	B3/5000		
BH	(60°-80°)	1650.5	11.1	B3/2500		G3/2500
BVH	(80°-90°)	133.9	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





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CANDELA DISTRIBUTION (FULL):

	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°
0°	4384.6	4384.6	4384.6	4384.6	4384.6	4384.6	4384.6	4384.6	4384.6	4384.6	4384.6
1°	4412.6	4409.9	4411.6	4400.8	4392.7	4389.2	4385.4	4377.2	4369.9	4364.4	4360.1
2°	4450.1	4443.0	4435.2	4422.8	4407.8	4393.2	4381.5	4366.4	4354.0	4347.9	4340.1
3°	4479.7	4476.3	4462.2	4442.7	4422.5	4394.4	4376.5	4354.5	4336.9	4325.2	4319.2
4°	4513.5	4503.7	4488.3	4463.5	4429.8	4395.5	4367.7	4341.7	4321.7	4320.2	4337.4
5°	4541.5	4532.2	4511.0	4481.6	4439.0	4397.2	4362.6	4328.8	4310.3	4341.2	4394.2
6°	4565.6	4554.2	4532.9	4497.1	4448.0	4392.2	4344.1	4307.8	4314.6	4392.7	4442.7
7°	4589.3	4574.2	4544.9	4507.4	4451.8	4391.1	4335.0	4295.1	4340.3	4433.1	4449.1
8°	4609.6	4594.9	4564.5	4515.5	4457.9	4387.7	4321.9	4284.2	4374.2	4437.4	4392.4
9°	4634.8	4618.2	4576.4	4529.5	4456.4	4379.6	4305.2	4273.9	4405.9	4403.1	4326.4
10°	4658.8	4636.3	4596.7	4535.8	4460.2	4367.6	4289.0	4279.5	4404.5	4331.8	4296.1
11°	4686.9	4665.1	4609.5	4542.5	4454.8	4361.3	4273.6	4292.3	4385.6	4280.7	4274.1
12°	4716.7	4691.9	4628.3	4553.5	4455.7	4351.2	4248.6	4305.3	4324.5	4254.9	4258.2
13°	4743.0	4716.2	4648.5	4557.5	4454.1	4337.1	4226.2	4314.3	4265.3	4231.7	4247.1
14°	4777.1	4745.3	4669.7	4566.1	4451.0	4322.5	4205.2	4319.9	4219.1	4212.2	4239.6
15°	4811.3	4777.6	4689.7	4575.5	4442.7	4304.8	4180.9	4302.0	4185.2	4195.8	4220.5
16°	4839.6	4805.1	4717.0	4583.0	4443.5	4293.9	4157.2	4270.8	4159.2	4177.9	4208.4
17°	4868.6	4834.5	4735.6	4597.6	4441.5	4278.9	4134.4	4221.6	4128.6	4159.2	4197.9
18°	4904.2	4858.5	4756.1	4608.8	4438.7	4262.0	4114.6	4154.3	4105.5	4135.9	4187.5
19°	4936.3	4890.1	4778.9	4620.6	4431.6	4241.1	4093.4	4093.2	4081.3	4118.7	4170.6
20°	4965.6	4912.8	4794.6	4627.7	4431.4	4226.2	4077.8	4041.4	4051.7	4097.5	4153.8
21°	4999.0	4943.1	4818.5	4633.8	4419.7	4210.9	4069.4	4002.0	4017.9	4074.5	4144.7
22°	5032.9	4968.5	4831.5	4640.9	4408.4	4192.5	4060.1	3963.1	3984.3	4054.3	4134.4
23°	5067.8	5003.0	4848.6	4642.2	4395.5	4166.3	4050.0	3924.1	3956.0	4033.6	4117.5
24°	5101.4	5032.1	4866.8	4646.5	4384.8	4143.5	4034.8	3889.2	3924.4	4014.6	4107.8
25°	5129.0	5059.2	4886.5	4643.9	4368.4	4106.6	4014.9	3854.1	3893.2	3993.9	4103.5
26°	5155.7	5087.0	4904.8	4641.7	4346.5	4071.5	3981.5	3806.3	3855.1	3968.3	4095.5
27°	5188.9	5112.3	4930.1	4645.5	4329.3	4038.9	3941.1	3765.9	3821.0	3947.8	4085.6
28°	5214.6	5135.7	4942.6	4637.8	4304.8	3998.4	3885.7	3718.3	3787.8	3930.2	4082.9
29°	5246.4	5165.0	4961.1	4639.4	4277.2	3959.7	3827.8	3671.8	3757.1	3907.7	4081.0
30°	5263.1	5191.8	4971.7	4635.1	4253.4	3911.4	3755.7	3623.9	3721.2	3888.2	4073.0
31°	5287.2	5209.1	4992.4	4639.9	4225.3	3864.5	3688.1	3576.1	3682.2	3870.8	4072.4
32°	5301.8	5230.0	5003.1	4637.3	4194.1	3817.2	3621.5	3523.3	3649.1	3852.3	4068.1
33°	5317.8	5240.7	5020.7	4634.5	4164.5	3763.9	3555.8	3471.9	3608.7	3834.9	4070.7
34°	5323.6	5252.6	5033.6	4634.0	4135.2	3709.8	3497.7	3418.4	3574.6	3818.2	4069.5
35°	5320.3	5255.1	5046.8	4631.6	4106.3	3657.7	3434.5	3365.1	3531.9	3798.0	4065.6
36°	5303.4	5253.0	5046.6	4623.5	4076.2	3598.3	3370.4	3311.9	3495.0	3786.1	4047.5
37°	5285.2	5236.1	5054.7	4625.5	4046.9	3539.5	3304.7	3257.1	3457.1	3763.8	4045.9
38°	5254.1	5213.8	5049.0	4628.8	4022.7	3484.4	3239.2	3202.8	3422.1	3739.8	4047.2
39°	5216.7	5186.6	5035.4	4627.8	3996.6	3425.5	3171.2	3152.0	3384.5	3709.5	4056.0
40°	5175.9	5148.9	5023.5	4630.0	3972.4	3365.0	3103.0	3101.2	3347.6	3688.5	4065.7
41°	5130.5	5106.5	4998.7	4630.0	3949.7	3309.9	3034.9	3050.4	3308.7	3681.7	4061.9
42°	5067.8	5054.6	4969.2	4627.3	3927.1	3252.1	2968.0	2991.8	3264.9	3670.1	4060.3
43°	4987.6	4994.4	4928.8	4625.0	3908.7	3197.7	2893.1	2933.3	3213.2	3646.3	4059.8
44°	4901.9	4919.4	4882.7	4620.7	3890.5	3146.2	2816.1	2875.5	3176.7	3619.8	4062.4



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CATALOG NUMBER: TWC150_T2_90W_4000K

CANDELA DISTRIBUTION (continued):

	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°
45°	4808.0	4839.5	4834.0	4608.3	3874.5	3096.6	2740.2	2812.8	3140.1	3592.2	4062.3
46°	4707.4	4746.1	4771.5	4592.8	3859.9	3049.4	2667.5	2751.4	3103.5	3583.7	4052.5
47°	4586.0	4643.6	4708.8	4567.9	3850.6	2999.5	2586.3	2689.7	3063.2	3571.2	4030.5
48°	4454.8	4528.2	4625.4	4543.6	3836.4	2943.0	2509.3	2622.5	3015.3	3553.1	4004.7
49°	4314.3	4397.2	4534.5	4501.6	3826.5	2883.6	2427.9	2549.5	2968.2	3530.3	3975.6
50°	4161.2	4248.3	4434.9	4457.9	3819.7	2819.3	2348.7	2470.1	2931.3	3505.1	3941.8
51°	3993.6	4100.2	4321.9	4410.9	3811.4	2753.2	2267.3	2393.2	2891.4	3473.2	3905.2
52°	3816.5	3929.7	4197.3	4358.5	3807.6	2684.1	2183.0	2327.5	2842.6	3444.9	3870.5
53°	3625.1	3752.3	4054.2	4289.9	3798.2	2603.3	2102.6	2265.3	2789.8	3418.6	3830.6
54°	3427.0	3561.1	3892.0	4210.4	3786.6	2533.7	2023.0	2189.0	2734.9	3387.3	3787.6
55°	3216.9	3357.9	3719.7	4116.0	3777.8	2462.2	1936.5	2110.9	2674.5	3351.9	3740.8
56°	2991.5	3143.1	3534.9	4014.4	3762.6	2392.5	1851.6	2038.9	2624.3	3310.9	3689.6
57°	2736.5	2910.3	3331.2	3897.5	3739.8	2325.3	1767.5	1967.6	2566.6	3268.8	3633.4
58°	2430.2	2656.3	3116.1	3755.5	3703.5	2258.5	1680.2	1893.1	2511.7	3226.0	3568.7
59°	2085.7	2355.1	2884.6	3597.0	3663.0	2192.5	1593.3	1812.5	2451.9	3182.8	3492.2
60°	1729.0	2008.5	2633.3	3412.8	3608.9	2126.4	1503.2	1730.1	2390.7	3139.4	3407.2
61°	1393.0	1651.0	2356.3	3206.6	3550.6	2065.2	1417.2	1647.6	2328.3	3095.9	3304.6
62°	1057.2	1316.0	2023.5	2963.7	3478.0	2012.1	1336.8	1570.3	2269.7	3036.5	3150.5
63°	721.5	981.1	1676.9	2702.8	3392.6	1964.6	1250.3	1487.8	2214.8	2971.8	2996.6
64°	467.8	646.2	1331.0	2431.2	3290.4	1925.7	1165.1	1411.1	2156.6	2898.4	2839.4
65°	307.4	403.6	985.0	2113.2	3171.5	1899.1	1083.7	1335.4	2096.8	2823.2	2572.7
66°	236.6	265.8	639.1	1759.6	3029.2	1886.7	1003.3	1259.8	2032.6	2722.5	2378.9
67°	214.7	208.6	390.6	1396.5	2854.2	1879.9	926.4	1184.2	1969.6	2560.5	2265.3
68°	199.6	189.7	247.3	1033.2	2637.7	1876.4	848.9	1111.2	1895.3	2359.8	2170.3
69°	184.7	174.7	193.5	669.9	2394.8	1870.5	774.3	1040.0	1822.0	2204.0	2076.8
70°	170.2	160.4	174.2	390.3	2085.6	1869.1	701.7	971.7	1751.8	2106.1	1987.0
71°	156.6	148.2	159.9	230.4	1677.5	1878.9	631.5	902.7	1672.6	2011.1	1904.2
72°	145.7	136.2	145.7	167.1	1241.9	1880.7	568.0	835.0	1546.0	1906.9	1817.2
73°	134.8	124.1	131.5	148.2	805.9	1836.5	504.9	765.4	1427.1	1798.8	1725.0
74°	124.0	113.4	117.3	130.2	369.8	1708.5	444.6	697.8	1348.4	1696.9	1621.6
75°	112.9	101.9	103.9	112.2	205.2	1544.7	387.8	634.4	1282.4	1600.5	1513.2
76°	103.5	91.6	88.6	99.9	172.9	1368.6	331.1	571.3	1209.8	1506.7	1382.8
77°	96.4	83.5	77.0	90.4	142.6	1192.4	274.6	511.8	1137.8	1419.3	1232.5
78°	91.8	76.7	67.4	79.5	112.2	1016.2	227.3	440.0	1071.4	1335.1	1096.6
79°	88.1	72.4	60.6	66.0	101.8	775.2	184.7	383.7	1000.7	1254.3	970.8
80°	83.3	68.8	55.2	53.8	101.6	585.8	146.5	327.4	931.4	1149.6	873.2
81°	77.7	64.3	50.9	45.6	94.5	409.6	114.5	271.2	865.3	1040.0	772.9
82°	71.0	59.2	47.0	39.8	80.9	266.5	87.0	227.7	793.7	928.1	550.9
83°	58.6	51.5	42.9	34.8	67.0	157.0	63.0	186.6	722.6	842.9	328.9
84°	46.4	42.1	36.3	30.2	46.0	117.3	48.2	146.4	624.5	765.6	111.0
85°	33.3	31.2	27.3	25.8	27.1	77.8	33.4	110.6	502.8	611.7	63.9
86°	23.2	23.6	19.9	19.1	17.4	38.3	18.7	77.2	402.4	457.8	17.6
87°	15.9	16.1	13.6	13.1	11.8	21.0	10.7	52.2	301.9	303.9	8.6
88°	8.5	8.7	7.4	7.2	6.2	14.0	4.9	27.3	201.5	150.0	3.0
89°	1.2	1.2	1.1	1.2	1.3	7.3	1.6	3.0	101.1	1.1	0.7



REPORT NUMBER: P1449861
 CATALOG NUMBER: TWC150_T2_90W_4000K

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: P1449861
 CATALOG NUMBER: TWC150_T2_90W_4000K

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: P1449861
CATALOG NUMBER: TWC150_T2_90W_4000K

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: P1449861

CATALOG NUMBER: TWC150_T2_90W_4000K

CANDELA DISTRIBUTION (continued):

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
0°	4384.6	4384.6	4384.6	4384.6	4384.6	4384.6	4384.6	4384.6	4384.6	4384.6	4384.6
1°	4356.0	4355.6	4359.1	4356.1	4362.8	4367.7	4373.3	4386.1	4393.0	4397.5	4403.3
2°	4330.0	4332.3	4330.8	4333.8	4348.9	4356.3	4367.1	4382.3	4400.5	4410.6	4425.0
3°	4317.4	4322.5	4315.4	4316.4	4322.7	4341.7	4353.7	4376.2	4399.3	4422.8	4449.6
4°	4358.3	4357.3	4343.6	4320.9	4307.0	4322.5	4342.2	4373.3	4408.8	4436.1	4468.8
5°	4423.8	4427.1	4406.6	4369.9	4314.6	4304.3	4330.0	4364.1	4406.6	4450.5	4488.2
6°	4454.9	4455.7	4454.6	4416.9	4350.3	4293.8	4314.6	4353.7	4405.9	4460.5	4502.7
7°	4429.8	4421.3	4434.2	4438.9	4393.9	4297.9	4298.7	4345.7	4406.6	4467.8	4518.5
8°	4352.2	4343.9	4358.6	4410.1	4419.7	4314.8	4280.8	4335.5	4407.6	4473.3	4529.1
9°	4309.6	4309.6	4310.1	4334.6	4412.4	4345.7	4259.2	4318.1	4397.8	4475.1	4540.3
10°	4290.8	4289.5	4288.3	4287.5	4359.1	4366.9	4245.8	4305.0	4394.4	4479.6	4552.7
11°	4274.7	4276.4	4271.9	4265.1	4296.2	4370.4	4233.4	4289.3	4382.0	4477.4	4558.0
12°	4271.6	4272.6	4260.8	4242.0	4251.2	4351.2	4226.2	4266.1	4376.2	4477.3	4569.9
13°	4262.0	4266.3	4255.5	4228.9	4225.1	4303.7	4230.9	4244.8	4365.4	4476.8	4581.2
14°	4251.6	4255.2	4237.8	4218.3	4197.9	4242.1	4241.6	4227.4	4356.3	4477.3	4592.1
15°	4241.1	4244.4	4227.7	4204.1	4173.3	4188.8	4240.6	4209.0	4342.6	4481.6	4607.8
16°	4233.7	4241.0	4222.1	4183.6	4155.4	4148.0	4244.1	4179.1	4330.0	4485.0	4620.2
17°	4226.6	4232.7	4212.7	4171.0	4130.3	4118.9	4227.1	4156.6	4315.4	4483.4	4635.9
18°	4214.8	4221.1	4197.5	4153.6	4105.0	4084.9	4197.5	4128.6	4308.2	4483.4	4652.3
19°	4202.9	4216.8	4190.0	4141.5	4077.5	4054.0	4155.9	4106.8	4294.6	4480.7	4666.7
20°	4200.6	4213.5	4178.6	4121.3	4060.1	4024.0	4100.2	4074.5	4279.9	4479.1	4670.4
21°	4197.0	4209.0	4172.5	4104.0	4037.4	3994.6	4037.4	4048.9	4268.9	4479.6	4681.6
22°	4192.5	4208.0	4168.2	4089.9	4010.3	3958.3	3975.2	4021.1	4248.6	4470.3	4689.1
23°	4193.0	4212.3	4163.7	4079.0	3983.7	3914.7	3922.4	3997.6	4228.6	4464.2	4698.5
24°	4189.2	4212.3	4162.0	4059.1	3957.4	3878.3	3875.8	3973.2	4200.9	4451.4	4706.3
25°	4187.0	4214.0	4160.4	4051.0	3935.5	3846.7	3829.8	3959.3	4171.3	4437.9	4709.6
26°	4192.5	4216.8	4154.3	4038.1	3910.7	3806.1	3785.8	3946.1	4143.5	4422.8	4715.0
27°	4190.8	4219.8	4155.9	4030.2	3885.9	3764.3	3739.1	3926.9	4106.4	4412.1	4719.0
28°	4194.3	4228.1	4155.9	4017.1	3858.2	3721.6	3698.4	3907.9	4068.4	4388.2	4721.8
29°	4203.6	4236.2	4157.7	4002.5	3835.4	3686.5	3653.2	3881.1	4028.5	4371.4	4727.8
30°	4205.4	4245.3	4164.4	3993.3	3809.6	3643.3	3601.3	3838.1	3984.3	4347.5	4736.6
31°	4222.9	4259.7	4166.8	3989.8	3785.3	3605.4	3546.5	3789.6	3937.7	4327.8	4740.7
32°	4229.6	4271.6	4178.6	3978.9	3758.1	3561.4	3496.5	3729.3	3895.5	4309.8	4737.4
33°	4233.4	4274.7	4180.2	3976.1	3726.5	3519.4	3437.8	3656.4	3847.5	4284.2	4746.8
34°	4232.9	4272.1	4177.4	3971.6	3706.5	3476.8	3386.8	3578.4	3799.8	4262.3	4742.3
35°	4233.7	4287.6	4173.1	3964.5	3676.7	3436.5	3331.1	3499.2	3750.0	4240.0	4749.0
36°	4250.6	4308.3	4176.6	3950.4	3652.4	3393.1	3272.6	3418.6	3700.5	4226.9	4752.3
37°	4272.2	4334.8	4193.8	3931.2	3628.4	3349.8	3212.1	3349.8	3651.2	4202.4	4759.2
38°	4287.8	4351.3	4211.7	3926.9	3602.8	3304.1	3155.8	3276.8	3604.2	4190.5	4759.4
39°	4294.7	4354.0	4223.4	3924.1	3570.7	3256.1	3099.6	3207.6	3555.1	4172.6	4761.0
40°	4298.2	4358.1	4221.1	3917.5	3534.7	3212.3	3043.3	3135.0	3502.3	4156.3	4757.2
41°	4304.3	4365.1	4219.6	3911.0	3506.8	3169.7	2974.0	3067.6	3450.5	4137.6	4762.2
42°	4310.3	4373.3	4233.5	3900.9	3482.1	3127.2	2906.5	2997.3	3399.1	4127.8	4751.8
43°	4316.8	4372.4	4236.2	3900.4	3463.3	3084.5	2835.6	2922.8	3349.8	4121.8	4743.5
44°	4307.5	4357.8	4235.5	3900.3	3442.6	3028.9	2767.5	2848.4	3294.7	4118.9	4724.5



REPORT NUMBER: P1449861

CATALOG NUMBER: TWC150_T2_90W_4000K

CANDELA DISTRIBUTION (continued):

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
45°	4289.9	4338.9	4221.3	3896.0	3405.7	2968.8	2699.0	2773.1	3239.7	4115.0	4701.0
46°	4263.8	4311.6	4197.1	3889.5	3373.6	2909.8	2630.8	2697.5	3189.7	4107.9	4669.5
47°	4237.0	4286.6	4168.2	3875.8	3344.8	2853.0	2563.3	2617.6	3136.5	4100.3	4630.7
48°	4207.2	4249.2	4139.9	3857.6	3319.3	2808.5	2493.9	2541.6	3088.0	4096.4	4582.5
49°	4171.8	4214.2	4104.8	3832.9	3288.0	2754.2	2423.8	2458.4	3037.3	4090.2	4536.3
50°	4133.9	4174.6	4073.0	3805.0	3254.3	2698.1	2351.3	2376.0	2984.9	4081.5	4479.7
51°	4091.7	4129.3	4035.5	3765.6	3215.6	2643.5	2277.7	2296.9	2937.4	4071.5	4414.7
52°	4050.2	4081.8	3992.1	3732.5	3180.1	2590.3	2197.3	2215.0	2888.1	4060.1	4330.2
53°	3993.9	4016.3	3944.8	3691.9	3152.4	2542.3	2115.5	2133.6	2843.4	4040.4	4240.6
54°	3933.9	3949.4	3895.5	3652.6	3124.7	2485.3	2033.8	2048.5	2804.5	4011.3	4133.6
55°	3865.2	3874.0	3830.1	3608.1	3097.1	2425.1	1960.8	1962.3	2767.6	3976.9	4015.4
56°	3786.8	3785.3	3759.5	3564.4	3060.0	2355.5	1883.4	1874.9	2739.0	3924.8	3883.9
57°	3697.1	3691.4	3676.6	3510.3	3019.3	2288.4	1801.1	1787.2	2719.8	3874.3	3726.2
58°	3596.8	3579.3	3583.9	3460.1	2981.1	2218.4	1718.9	1699.5	2696.2	3812.4	3557.4
59°	3489.1	3463.4	3484.0	3398.2	2944.7	2153.1	1639.4	1613.7	2677.0	3739.6	3360.2
60°	3370.8	3284.4	3373.9	3334.0	2896.2	2086.4	1560.7	1529.9	2653.0	3657.9	3145.2
61°	3156.8	3105.4	3186.1	3254.6	2845.9	2022.4	1482.5	1446.5	2629.8	3557.6	2910.1
62°	2943.0	2925.8	2998.5	3150.7	2792.8	1954.0	1401.3	1363.2	2620.0	3446.6	2652.1
63°	2729.2	2647.2	2810.2	3046.8	2727.1	1881.9	1316.5	1277.3	2609.4	3306.2	2371.3
64°	2511.5	2483.2	2553.0	2940.7	2663.2	1815.9	1232.3	1191.0	2604.5	3149.2	2061.1
65°	2395.0	2387.9	2400.3	2735.4	2589.6	1747.2	1148.4	1110.6	2593.2	2961.6	1710.5
66°	2307.1	2298.9	2298.9	2487.0	2514.8	1675.7	1067.3	1031.5	2586.6	2740.5	1356.6
67°	2219.1	2199.6	2216.8	2312.8	2428.3	1604.4	988.1	952.3	2581.8	2489.6	1002.7
68°	2116.8	2084.4	2129.9	2198.4	2320.7	1531.3	909.9	867.8	2552.9	2180.6	648.8
69°	2005.7	1955.8	2029.5	2088.1	2158.0	1455.2	833.6	786.1	2489.6	1821.3	390.0
70°	1889.5	1828.1	1929.2	1984.5	2010.4	1382.6	760.1	707.2	2379.4	1406.0	238.0
71°	1757.9	1683.5	1812.7	1888.5	1921.4	1309.0	692.4	629.0	2219.3	989.1	177.3
72°	1624.2	1552.3	1691.1	1807.6	1846.1	1238.0	629.4	556.7	2069.4	572.2	157.9
73°	1496.4	1429.8	1560.5	1731.8	1757.1	1160.8	564.4	487.6	1947.4	312.8	142.6
74°	1361.9	1293.3	1425.9	1654.1	1670.2	1049.1	505.1	426.2	1752.5	185.6	127.5
75°	1229.3	1154.4	1290.0	1573.2	1582.2	957.7	448.1	366.1	1527.7	158.4	112.4
76°	1087.0	997.7	1158.8	1483.7	1494.6	890.3	398.6	311.5	1214.9	132.9	96.3
77°	942.3	848.1	1023.0	1370.6	1403.9	825.5	349.1	266.3	899.1	107.4	82.6
78°	810.4	704.4	900.7	1233.2	1306.6	757.7	299.8	228.3	583.2	98.2	69.7
79°	667.9	530.1	773.5	1085.9	1212.6	694.2	258.2	196.2	325.9	93.6	58.2
80°	482.4	355.9	636.1	951.2	1113.0	634.6	212.0	163.4	176.2	85.5	49.5
81°	296.9	182.9	418.7	856.5	1004.5	573.5	172.1	133.2	143.1	69.8	43.9
82°	115.3	59.8	202.2	781.5	902.8	513.0	140.0	103.0	111.6	55.3	39.1
83°	84.3	47.2	142.6	548.8	789.7	450.6	109.8	72.8	80.1	40.0	34.8
84°	53.4	34.6	83.0	316.1	703.0	382.1	83.8	52.2	77.4	28.0	30.7
85°	22.8	22.0	23.9	83.7	621.0	313.7	61.1	36.3	67.3	21.8	25.4
86°	13.9	13.0	15.1	46.4	388.5	245.4	44.2	23.5	49.7	17.1	17.5
87°	6.7	6.4	7.0	9.2	158.9	183.0	27.3	16.0	29.5	11.4	10.9
88°	2.5	2.5	2.6	2.7	78.6	121.8	10.5	8.5	19.6	5.7	4.2
89°	0.5	0.5	0.6	0.7	1.0	60.5	1.5	1.1	10.1	1.1	1.2



REPORT NUMBER: P1449861
 CATALOG NUMBER: TWC150_T2_90W_4000K

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: P1449861
 CATALOG NUMBER: TWC150_T2_90W_4000K

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: P1449861
CATALOG NUMBER: TWC150_T2_90W_4000K

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: P1449861
 CATALOG NUMBER: TWC150_T2_90W_4000K

CANDELA DISTRIBUTION (continued):

	330°	345°	360°
0°	4384.6	4384.6	4384.6
1°	4410.2	4413.4	4412.6
2°	4437.9	4442.2	4450.1
3°	4461.7	4474.3	4479.7
4°	4491.7	4504.2	4513.5
5°	4514.7	4531.4	4541.5
6°	4534.8	4556.7	4565.6
7°	4554.4	4584.0	4589.3
8°	4574.1	4605.3	4609.6
9°	4590.9	4623.2	4634.8
10°	4606.5	4643.1	4658.8
11°	4625.2	4670.5	4686.9
12°	4645.2	4702.0	4716.7
13°	4670.7	4728.9	4743.0
14°	4693.0	4763.2	4777.1
15°	4719.0	4788.8	4811.3
16°	4743.2	4819.8	4839.6
17°	4763.4	4842.9	4868.6
18°	4785.7	4876.4	4904.2
19°	4808.5	4906.0	4936.3
20°	4832.2	4934.1	4965.6
21°	4856.8	4961.1	4999.0
22°	4875.9	4997.5	5032.9
23°	4893.7	5028.1	5067.8
24°	4921.2	5058.4	5101.4
25°	4940.1	5093.5	5129.0
26°	4964.6	5118.3	5155.7
27°	4987.1	5140.0	5188.9
28°	5006.3	5170.9	5214.6
29°	5018.5	5200.2	5246.4
30°	5044.8	5223.0	5263.1
31°	5061.9	5242.6	5287.2
32°	5077.9	5259.6	5301.8
33°	5093.3	5271.2	5317.8
34°	5097.4	5277.1	5323.6
35°	5111.8	5278.3	5320.3
36°	5117.3	5271.2	5303.4
37°	5109.8	5255.8	5285.2
38°	5105.7	5233.8	5254.1
39°	5090.0	5196.6	5216.7
40°	5066.0	5155.8	5175.9
41°	5031.3	5114.2	5130.5
42°	4994.8	5054.9	5067.8
43°	4948.8	4994.2	4987.6
44°	4897.1	4915.9	4901.9



REPORT NUMBER: P1449861
 CATALOG NUMBER: TWC150_T2_90W_4000K

CANDELA DISTRIBUTION (continued):

	330°	345°	360°
45°	4838.0	4822.9	4808.0
46°	4768.2	4724.3	4707.4
47°	4681.0	4617.7	4586.0
48°	4590.9	4493.0	4454.8
49°	4483.1	4351.2	4314.3
50°	4365.4	4205.2	4161.2
51°	4235.0	4050.8	3993.6
52°	4090.9	3877.3	3816.5
53°	3941.5	3689.8	3625.1
54°	3767.2	3497.2	3427.0
55°	3581.2	3291.5	3216.9
56°	3381.5	3066.1	2991.5
57°	3168.9	2829.7	2736.5
58°	2938.2	2553.4	2430.2
59°	2696.8	2228.2	2085.7
60°	2418.5	1876.3	1729.0
61°	2103.8	1506.5	1393.0
62°	1746.4	1169.2	1057.2
63°	1401.6	832.3	721.5
64°	1057.0	552.3	467.8
65°	712.4	347.6	307.4
66°	449.3	245.5	236.6
67°	278.2	208.7	214.7
68°	204.6	192.3	199.6
69°	180.6	177.9	184.7
70°	165.2	163.8	170.2
71°	152.1	151.6	156.6
72°	138.5	139.4	145.7
73°	124.8	127.2	134.8
74°	114.1	116.7	124.0
75°	101.6	105.5	112.9
76°	87.9	95.4	103.5
77°	76.5	87.6	96.4
78°	68.3	81.9	91.8
79°	62.1	77.7	88.1
80°	57.4	73.8	83.3
81°	53.5	68.9	77.7
82°	49.2	63.2	71.0
83°	44.2	54.0	58.6
84°	35.6	43.9	46.4
85°	28.0	32.5	33.3
86°	18.2	23.4	23.2
87°	12.5	16.0	15.9
88°	6.8	8.5	8.5
89°	1.2	1.1	1.2



REPORT NUMBER: P1449861
CATALOG NUMBER: TWC150_T2_90W_4000K

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: P1449861
CATALOG NUMBER: TWC150_T2_90W_4000K

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: P1449861
CATALOG NUMBER: TWC150_T2_90W_4000K

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: SP1-2601-659-2

Test Date: 02/12/2026

Luminaire Tested: MWP2460W34VDDKYYAD-T4-24W-4000K

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

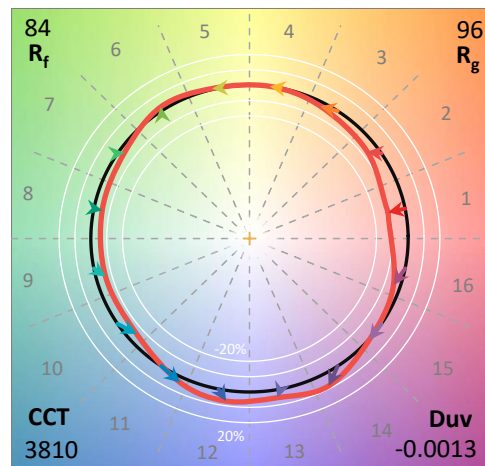
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2601-659-2
 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-4000K**
 Description: Mester Wedge, at T4 beam setting, 24W output, 4000K

Spectral Parameters

CCT (K): 3810
 CIE u': 0.2295
 CIE v': 0.5035
 Duv: -0.0013
 CIE x: 0.3881
 CIE y: 0.3785
 CIE z: 0.2334
 Peak Wavelength (nm): 453
 Dominant Wavelength (nm): 580
 Purity: 30.07368
 Rf: 84.4
 Rg: 96.5

CRI (Ra):	84.5		
R1:	83.7	R9:	15.9
R2:	90.7	R10:	77.2
R3:	95.1	R11:	83.0
R4:	83.6	R12:	62.4
R5:	83.4	R13:	85.6
R6:	86.7	R14:	97.4
R7:	86.3	R15:	77.9
R8:	66.5		



Test Conditions

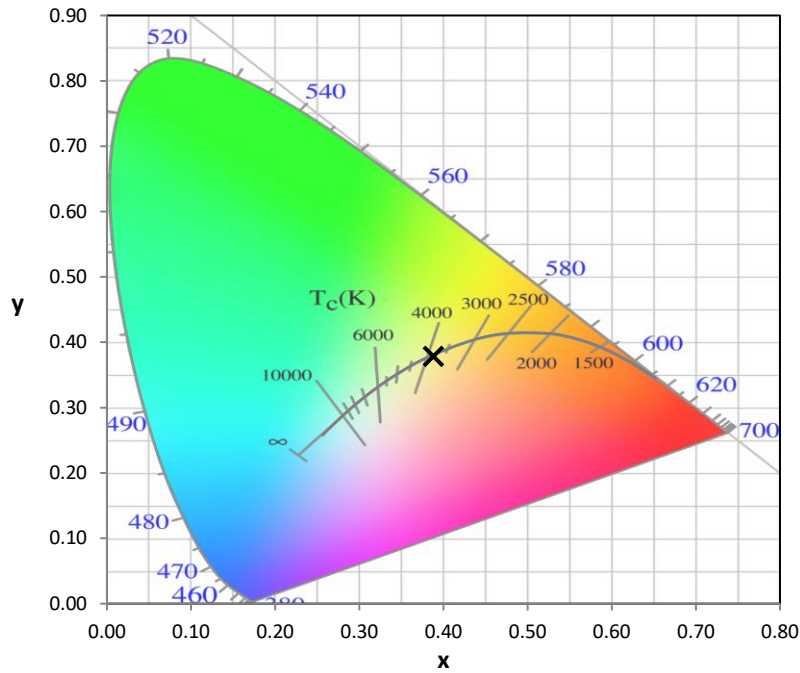
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.8

REPORT NUMBER: SP1-2601-659-2

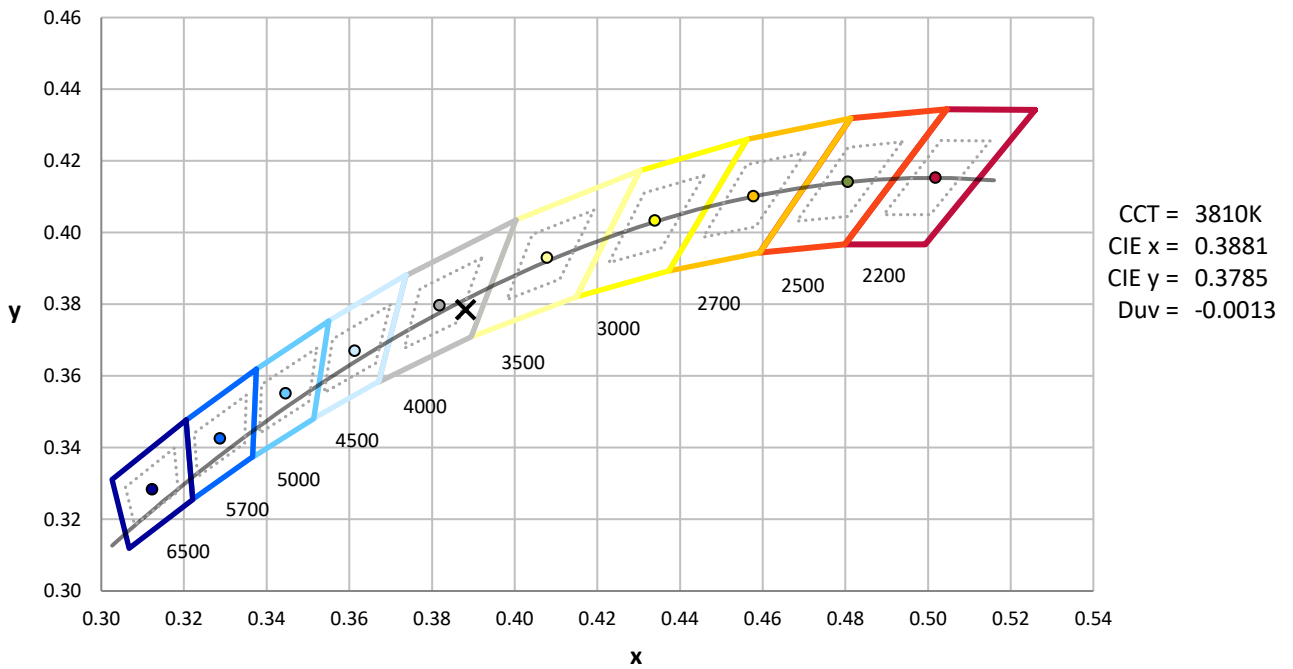
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208	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: SP1-2601-659-2

CIE 1931 Chromaticity Diagram



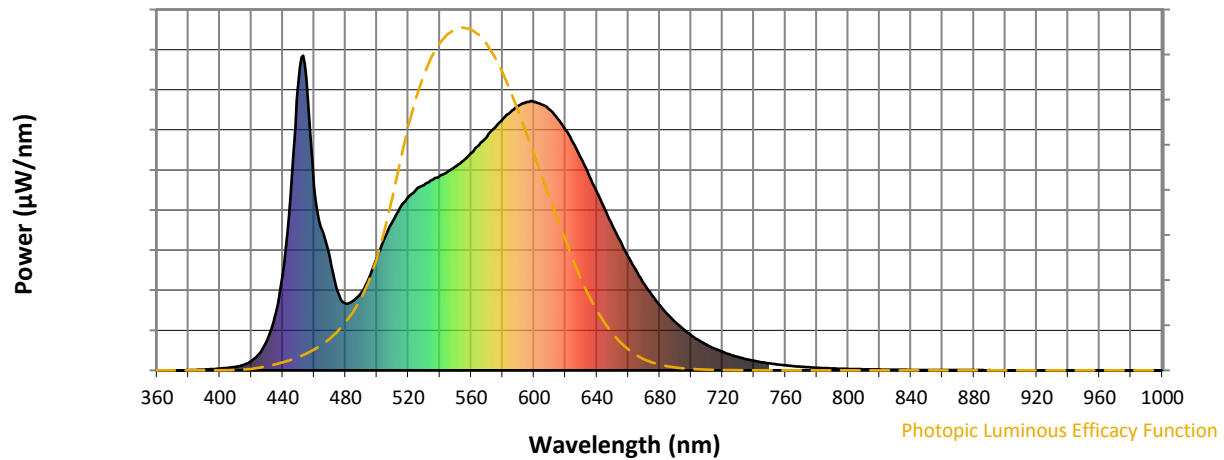
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 4000K 7-step quadrangle

REPORT NUMBER: SP1-2601-659-2

Photopic Flux vs. Wavelength

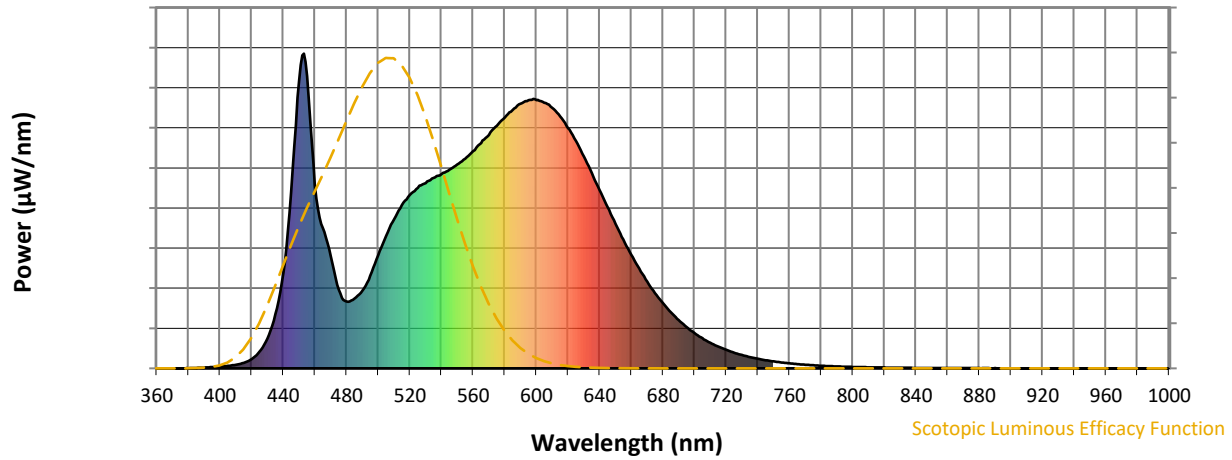


Photopic Lumens: NR

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	247	NR	620	764	NR	750	22	NR	880	1	NR
365	0	NR	495	294	NR	625	723	NR	755	19	NR	885	1	NR
370	0	NR	500	359	NR	630	674	NR	760	16	NR	890	1	NR
375	0	NR	505	421	NR	635	620	NR	765	14	NR	895	0	NR
380	1	NR	510	474	NR	640	566	NR	770	12	NR	900	0	NR
385	1	NR	515	518	NR	645	512	NR	775	10	NR	905	0	NR
390	3	NR	520	552	NR	650	459	NR	780	8	NR	910	0	NR
395	4	NR	525	574	NR	655	410	NR	785	7	NR	915	0	NR
400	6	NR	530	589	NR	660	361	NR	790	6	NR	920	0	NR
405	8	NR	535	605	NR	665	317	NR	795	5	NR	925	0	NR
410	11	NR	540	617	NR	670	276	NR	800	5	NR	930	0	NR
415	18	NR	545	632	NR	675	239	NR	805	4	NR	935	0	NR
420	30	NR	550	648	NR	680	207	NR	810	3	NR	940	0	NR
425	53	NR	555	666	NR	685	178	NR	815	3	NR	945	0	NR
430	95	NR	560	690	NR	690	153	NR	820	3	NR	950	0	NR
435	173	NR	565	716	NR	695	131	NR	825	2	NR	955	0	NR
440	304	NR	570	742	NR	700	112	NR	830	2	NR	960	0	NR
445	559	NR	575	771	NR	705	95	NR	835	2	NR	965	0	NR
450	915	NR	580	798	NR	710	81	NR	840	1	NR	970	0	NR
455	929	NR	585	820	NR	715	69	NR	845	1	NR	975	0	NR
460	582	NR	590	841	NR	720	59	NR	850	1	NR	980	0	NR
465	446	NR	595	852	NR	725	50	NR	855	1	NR	985	0	NR
470	356	NR	600	852	NR	730	42	NR	860	1	NR	990	0	NR
475	250	NR	605	845	NR	735	36	NR	865	1	NR	995	0	NR
480	212	NR	610	827	NR	740	30	NR	870	1	NR	1000	0	NR
485	221	NR	615	801	NR	745	26	NR	875	1	NR			

REPORT NUMBER: SP1-2601-659-2

Scotopic Flux vs. Wavelength



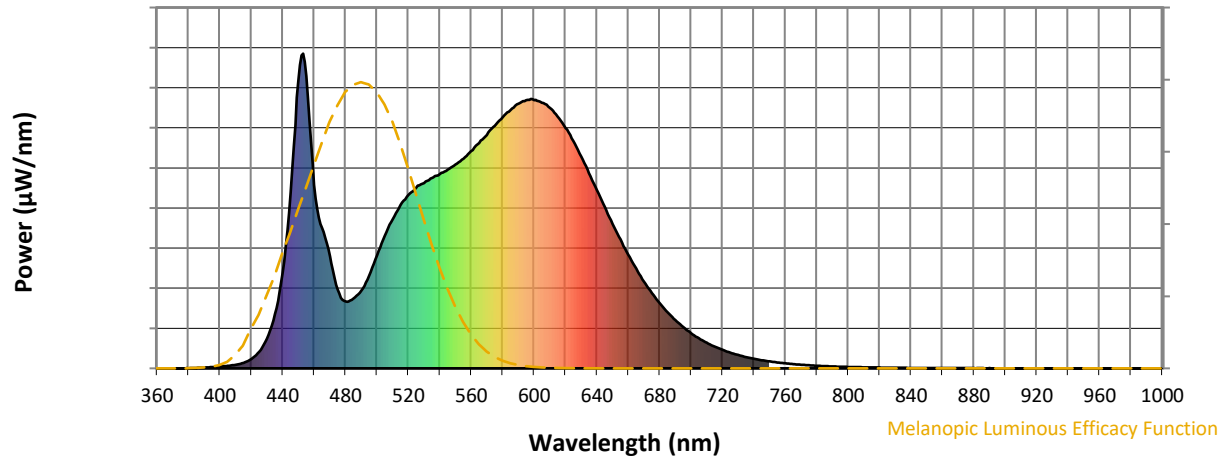
Scotopic Lumens: NR

S/P: 1.64

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	247	NR	620	764	NR	750	22	NR	880	1	NR
365	0	NR	495	294	NR	625	723	NR	755	19	NR	885	1	NR
370	0	NR	500	359	NR	630	674	NR	760	16	NR	890	1	NR
375	0	NR	505	421	NR	635	620	NR	765	14	NR	895	0	NR
380	1	NR	510	474	NR	640	566	NR	770	12	NR	900	0	NR
385	1	NR	515	518	NR	645	512	NR	775	10	NR	905	0	NR
390	3	NR	520	552	NR	650	459	NR	780	8	NR	910	0	NR
395	4	NR	525	574	NR	655	410	NR	785	7	NR	915	0	NR
400	6	NR	530	589	NR	660	361	NR	790	6	NR	920	0	NR
405	8	NR	535	605	NR	665	317	NR	795	5	NR	925	0	NR
410	11	NR	540	617	NR	670	276	NR	800	5	NR	930	0	NR
415	18	NR	545	632	NR	675	239	NR	805	4	NR	935	0	NR
420	30	NR	550	648	NR	680	207	NR	810	3	NR	940	0	NR
425	53	NR	555	666	NR	685	178	NR	815	3	NR	945	0	NR
430	95	NR	560	690	NR	690	153	NR	820	3	NR	950	0	NR
435	173	NR	565	716	NR	695	131	NR	825	2	NR	955	0	NR
440	304	NR	570	742	NR	700	112	NR	830	2	NR	960	0	NR
445	559	NR	575	771	NR	705	95	NR	835	2	NR	965	0	NR
450	915	NR	580	798	NR	710	81	NR	840	1	NR	970	0	NR
455	929	NR	585	820	NR	715	69	NR	845	1	NR	975	0	NR
460	582	NR	590	841	NR	720	59	NR	850	1	NR	980	0	NR
465	446	NR	595	852	NR	725	50	NR	855	1	NR	985	0	NR
470	356	NR	600	852	NR	730	42	NR	860	1	NR	990	0	NR
475	250	NR	605	845	NR	735	36	NR	865	1	NR	995	0	NR
480	212	NR	610	827	NR	740	30	NR	870	1	NR	1000	0	NR
485	221	NR	615	801	NR	745	26	NR	875	1	NR			

REPORT NUMBER: SP1-2601-659-2

Melanopic Flux vs. Wavelength



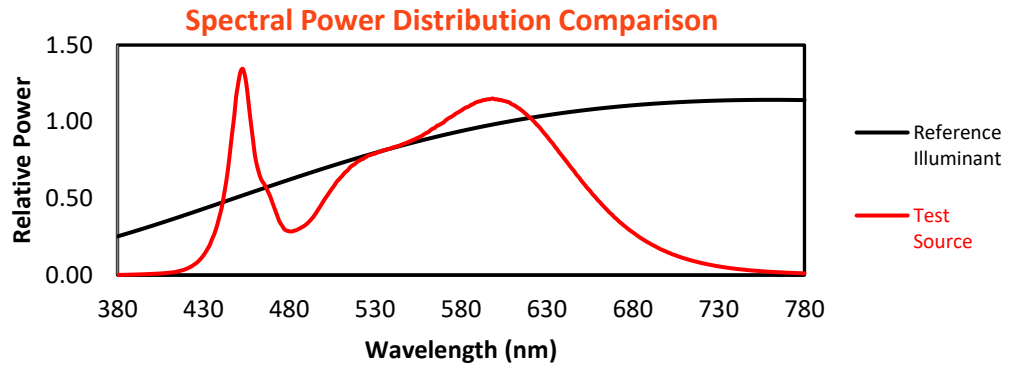
Melanopic Lumens: NR

M/P: 3.35

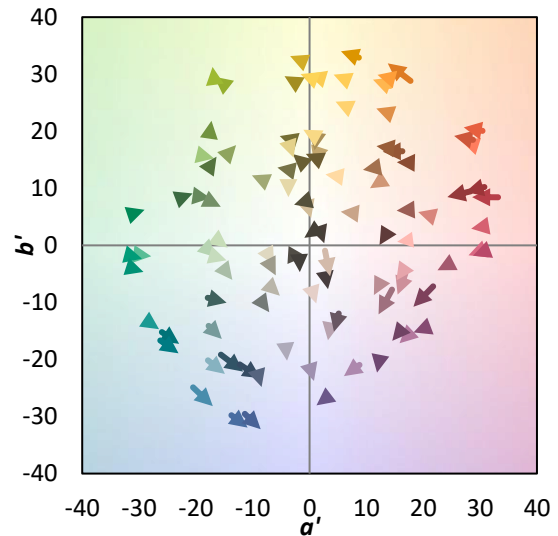
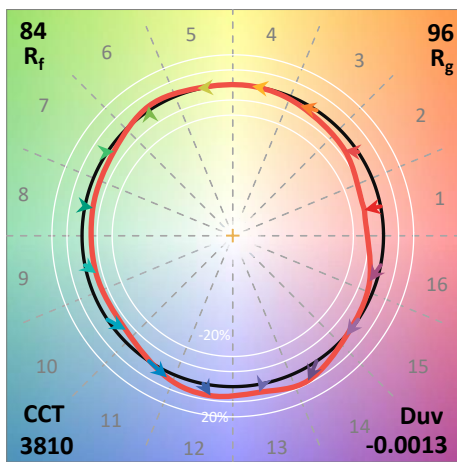
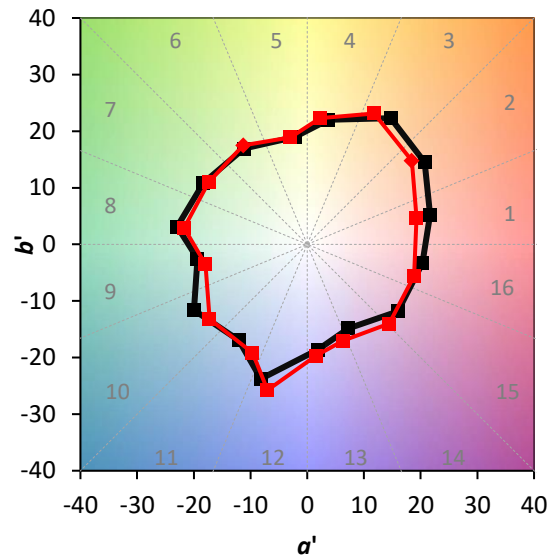
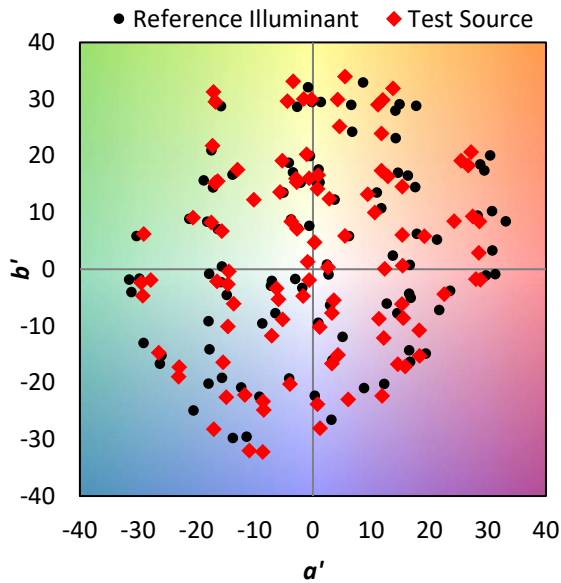
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	247	NR	620	764	NR	750	22	NR	880	1	NR
365	0	NR	495	294	NR	625	723	NR	755	19	NR	885	1	NR
370	0	NR	500	359	NR	630	674	NR	760	16	NR	890	1	NR
375	0	NR	505	421	NR	635	620	NR	765	14	NR	895	0	NR
380	1	NR	510	474	NR	640	566	NR	770	12	NR	900	0	NR
385	1	NR	515	518	NR	645	512	NR	775	10	NR	905	0	NR
390	3	NR	520	552	NR	650	459	NR	780	8	NR	910	0	NR
395	4	NR	525	574	NR	655	410	NR	785	7	NR	915	0	NR
400	6	NR	530	589	NR	660	361	NR	790	6	NR	920	0	NR
405	8	NR	535	605	NR	665	317	NR	795	5	NR	925	0	NR
410	11	NR	540	617	NR	670	276	NR	800	5	NR	930	0	NR
415	18	NR	545	632	NR	675	239	NR	805	4	NR	935	0	NR
420	30	NR	550	648	NR	680	207	NR	810	3	NR	940	0	NR
425	53	NR	555	666	NR	685	178	NR	815	3	NR	945	0	NR
430	95	NR	560	690	NR	690	153	NR	820	3	NR	950	0	NR
435	173	NR	565	716	NR	695	131	NR	825	2	NR	955	0	NR
440	304	NR	570	742	NR	700	112	NR	830	2	NR	960	0	NR
445	559	NR	575	771	NR	705	95	NR	835	2	NR	965	0	NR
450	915	NR	580	798	NR	710	81	NR	840	1	NR	970	0	NR
455	929	NR	585	820	NR	715	69	NR	845	1	NR	975	0	NR
460	582	NR	590	841	NR	720	59	NR	850	1	NR	980	0	NR
465	446	NR	595	852	NR	725	50	NR	855	1	NR	985	0	NR
470	356	NR	600	852	NR	730	42	NR	860	1	NR	990	0	NR
475	250	NR	605	845	NR	735	36	NR	865	1	NR	995	0	NR
480	212	NR	610	827	NR	740	30	NR	870	1	NR	1000	0	NR
485	221	NR	615	801	NR	745	26	NR	875	1	NR			

Summary

$R_f = 84.4$
 $R_g = 96.5$
 $CIE R_a = 84.5$
 $R_9 = 15.9$

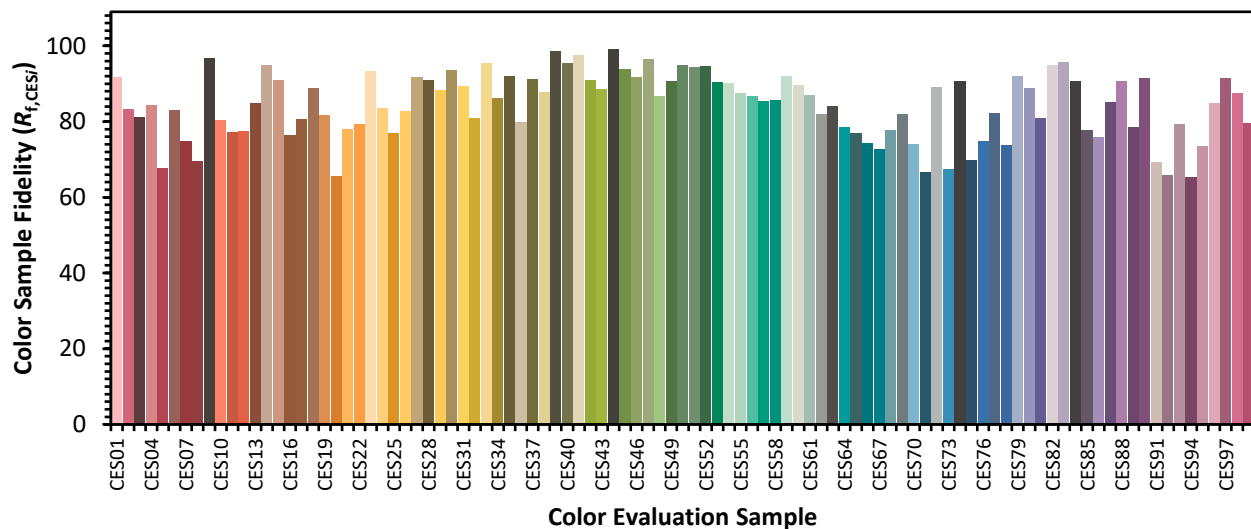


Color Vector Graphics

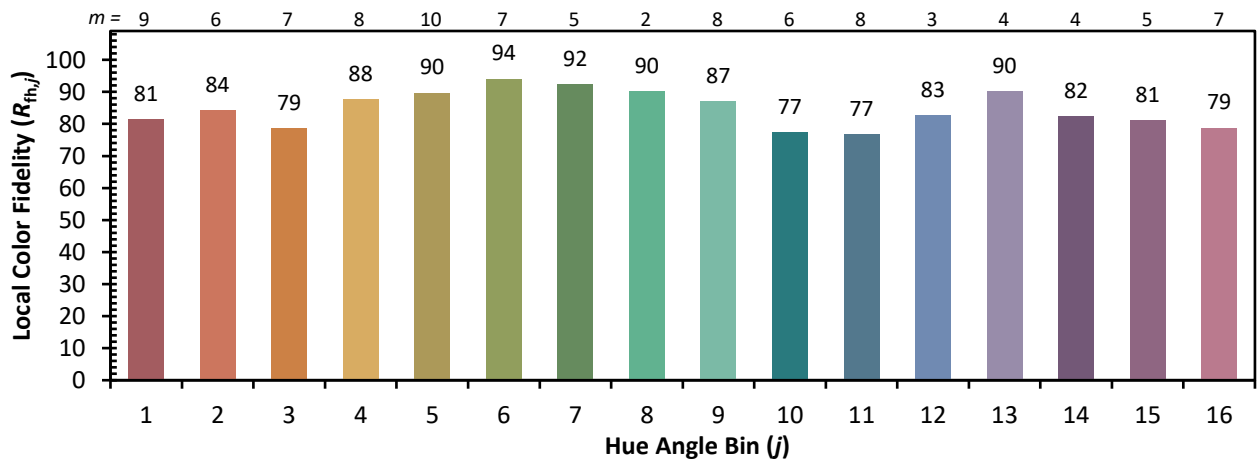
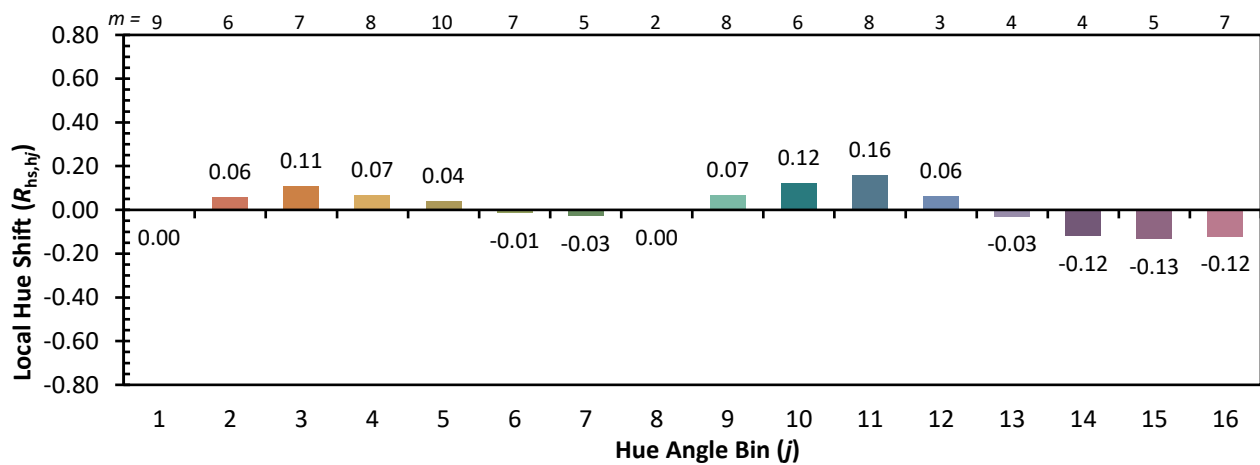
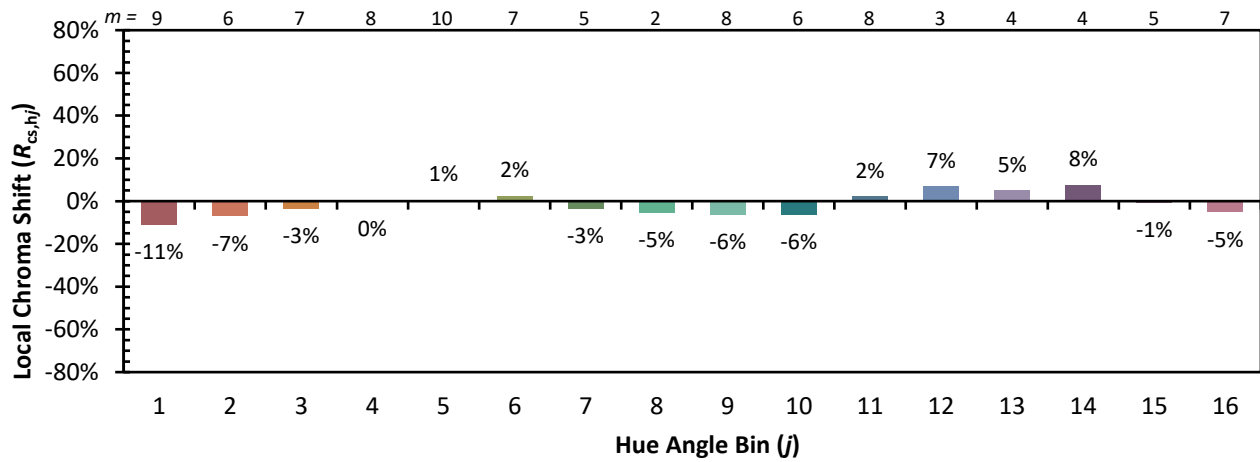


Individual Sample Fidelity Index ($R_{f,i}$)

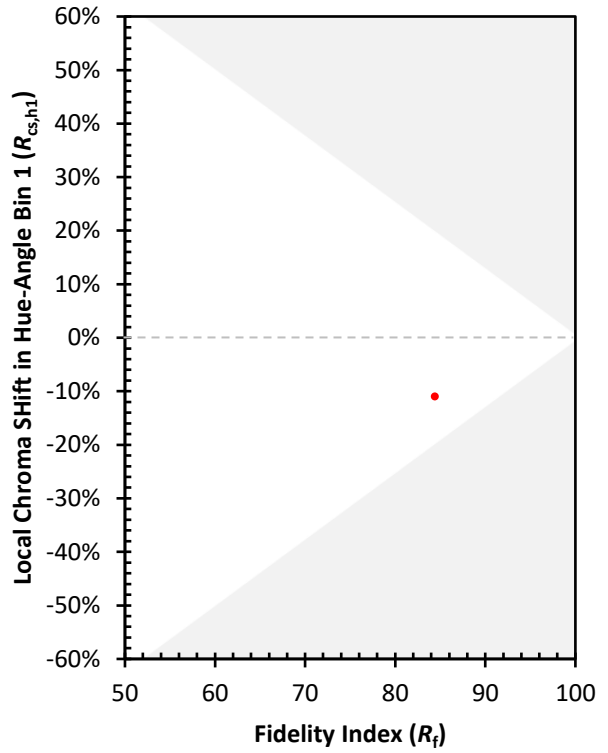
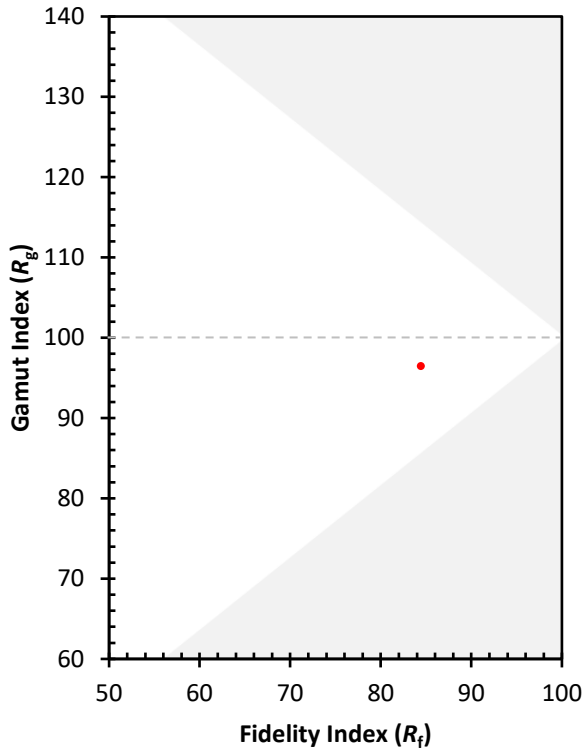
CES01 = 86	CES26 = 83	CES51 = 94	CES76 = 75
CES02 = 62	CES27 = 92	CES52 = 95	CES77 = 82
CES03 = 31	CES28 = 91	CES53 = 90	CES78 = 74
CES04 = 70	CES29 = 88	CES54 = 90	CES79 = 92
CES05 = 48	CES30 = 94	CES55 = 88	CES80 = 89
CES06 = 51	CES31 = 89	CES56 = 87	CES81 = 81
CES07 = 41	CES32 = 81	CES57 = 86	CES82 = 95
CES08 = 40	CES33 = 95	CES58 = 86	CES83 = 96
CES09 = 29	CES34 = 86	CES59 = 92	CES84 = 91
CES10 = 75	CES35 = 92	CES60 = 90	CES85 = 78
CES11 = 57	CES36 = 80	CES61 = 87	CES86 = 76
CES12 = 63	CES37 = 91	CES62 = 82	CES87 = 85
CES13 = 43	CES38 = 88	CES63 = 84	CES88 = 91
CES14 = 74	CES39 = 98	CES64 = 79	CES89 = 78
CES15 = 71	CES40 = 96	CES65 = 77	CES90 = 92
CES16 = 47	CES41 = 98	CES66 = 74	CES91 = 69
CES17 = 49	CES42 = 91	CES67 = 73	CES92 = 66
CES18 = 56	CES43 = 89	CES68 = 78	CES93 = 79
CES19 = 71	CES44 = 99	CES69 = 82	CES94 = 65
CES20 = 65	CES45 = 94	CES70 = 74	CES95 = 74
CES21 = 86	CES46 = 92	CES71 = 67	CES96 = 85
CES22 = 78	CES47 = 97	CES72 = 89	CES97 = 91
CES23 = 91	CES48 = 87	CES73 = 68	CES98 = 87
CES24 = 90	CES49 = 91	CES74 = 91	CES99 = 80
CES25 = 71	CES50 = 95	CES75 = 70	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)