

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: P1449876

Luminaire Tested: **TWC150_T4_120W_4000K**

Issue Date: 5/19/2026

Test Information

Test Method: LM-79-08
Report Number: P1449876
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_120W_4000K
Description: Tapered Wall Cutoff Wall Mount Luminaire at, T4 distribution, 120W
4000K settings
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18578 lumens
Efficiency: N/A
Efficacy: 159.5 lumens/watt
Luminous Opening: Rectangular (W 1.33' x L: 0.42' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B3 - U0 - G3

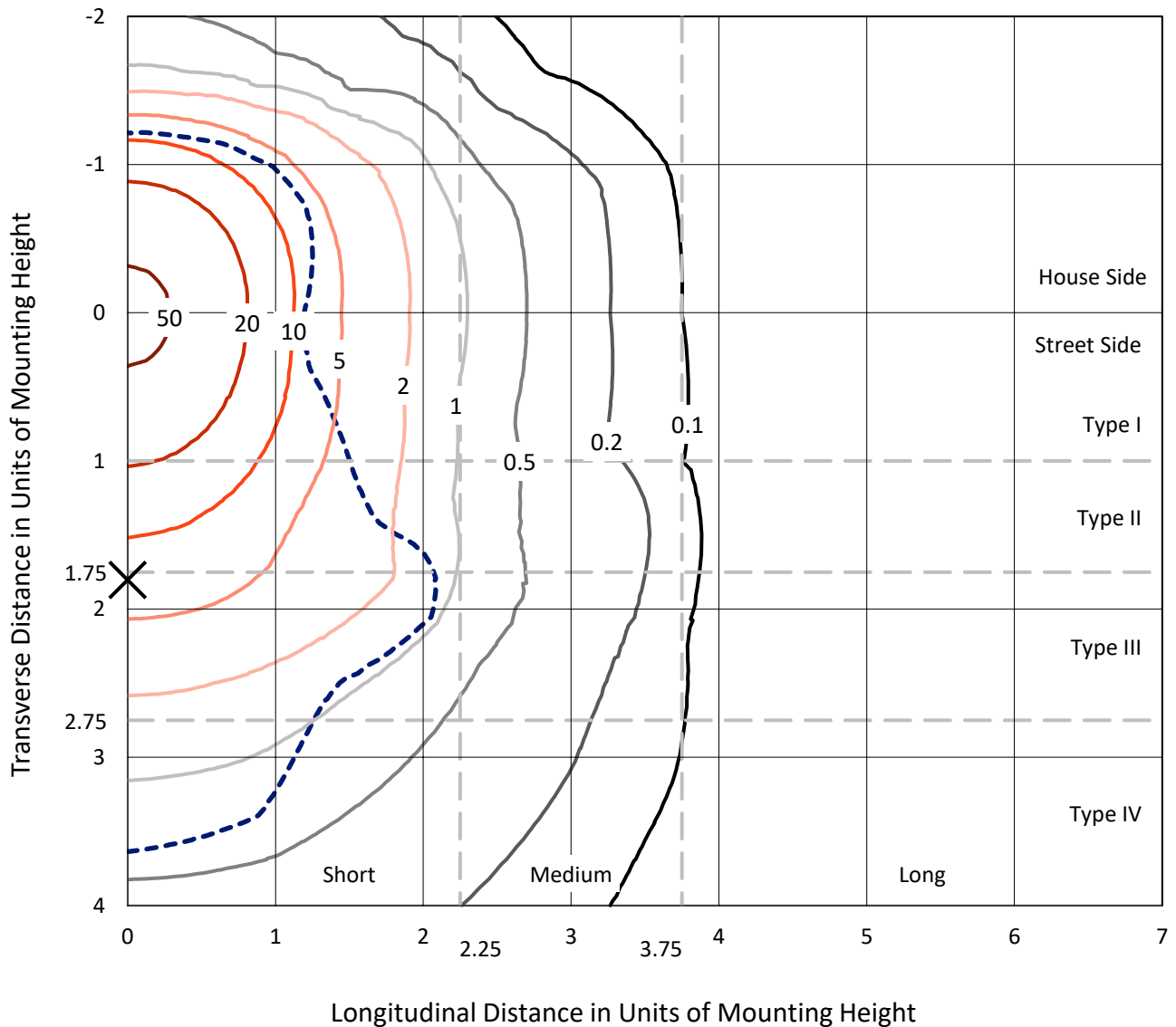
Input Watts (W): 116.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P1449876
 CATALOG NUMBER: TWC150_T4_120W_4000K

Iso-Footcandle Lines of Horizontal Illumination

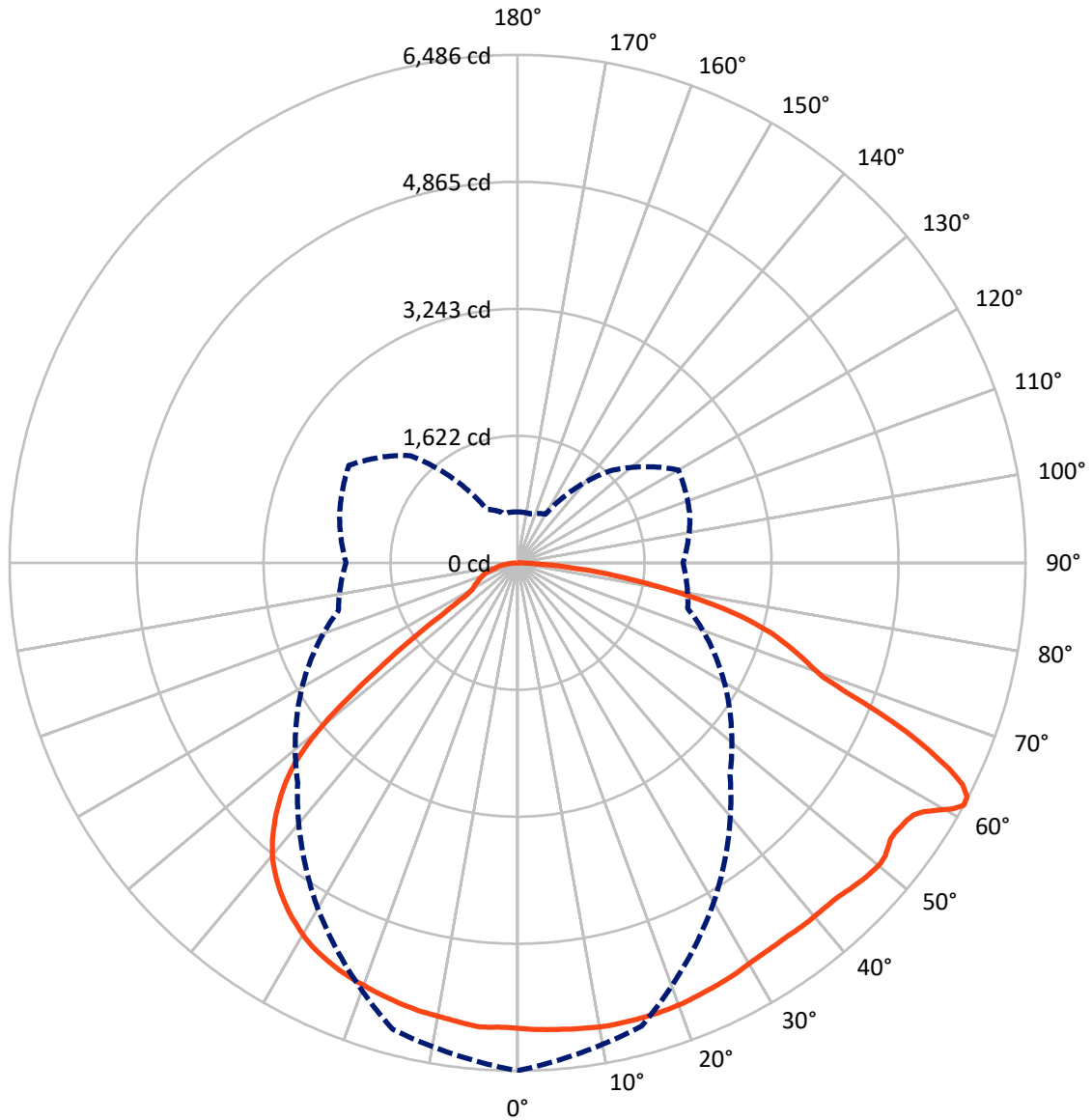
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 59.5 fc
 Type IV - Short - N/A

REPORT NUMBER: P1449876
CATALOG NUMBER: TWC150_T4_120W_4000K

Luminous Intensity Polar Plot



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

REPORT NUMBER: P1449876
 CATALOG NUMBER: TWC150_T4_120W_4000K

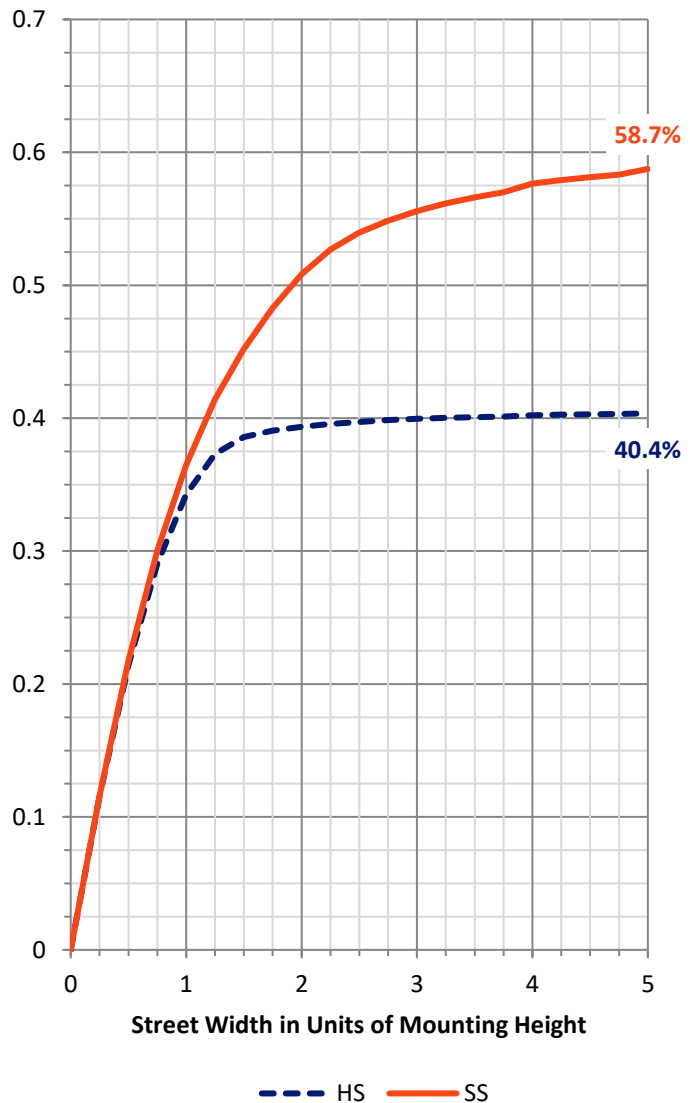
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	7552.6	0.0	7552.6
	% Fixture	40.7	0.0	40.7
Street Side	Lumens	11025.4	0.0	11025.4
	% Fixture	59.3	0.0	59.3
Total	Lumens	18578.0	0.0	18578.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	565.7	3.0
10°-20°	1643.5	8.8
20°-30°	2555.3	13.8
30°-40°	3202.2	17.2
40°-50°	3486.9	18.8
50°-60°	3149.9	17.0
60°-70°	2398.1	12.9
70°-80°	1268.0	6.8
80°-90°	308.4	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°	18578.0	100.0
0°-180°	18578.0	100.0

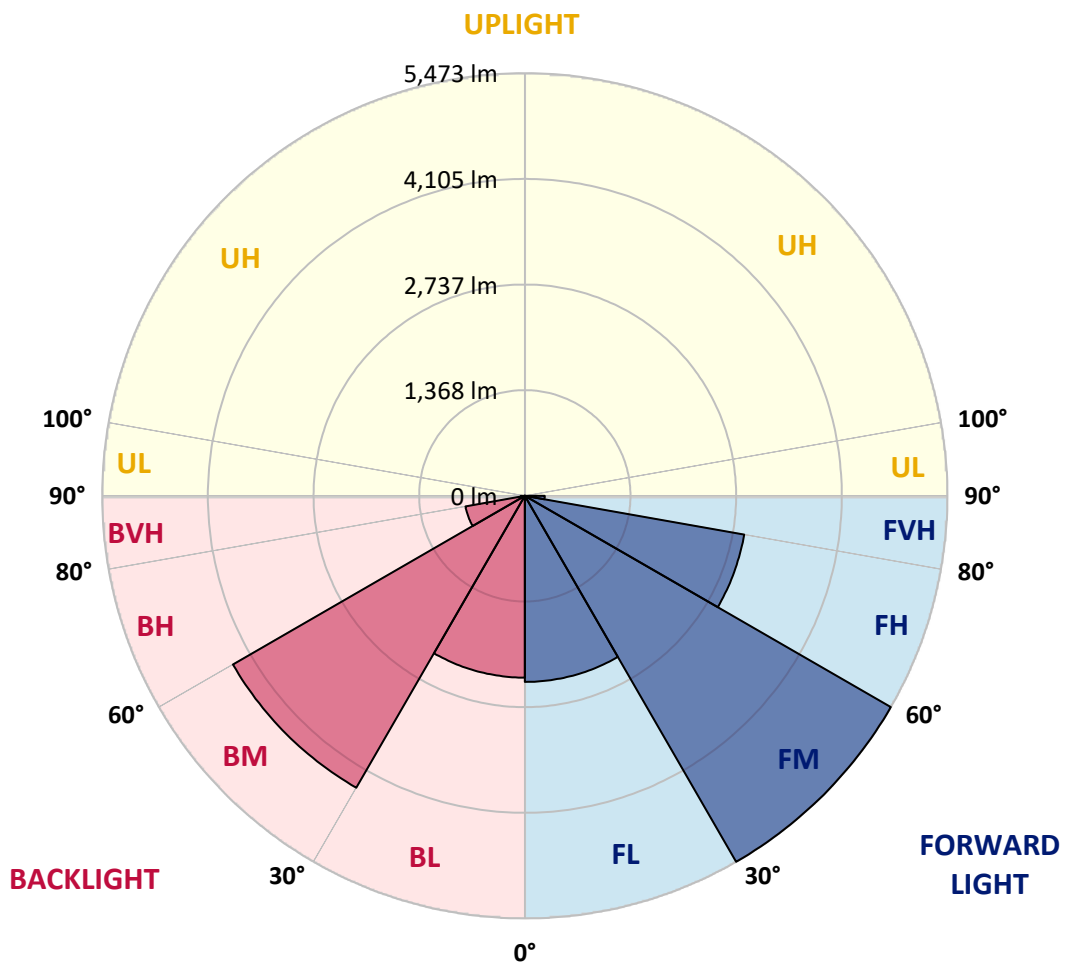


REPORT NUMBER: P1449876
 CATALOG NUMBER: TWC150_T4_120W_4000K

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2410.0	13.0			
FM	(30°-60°)	5473.2	29.5			
FH	(60°-80°)	2885.2	15.5			G2/5000
FVH	(80°-90°)	257.0	1.4			G3/500
BL	(0°-30°)	2354.5	12.7	B3/2500		
BM	(30°-60°)	4365.8	23.5	B3/5000		
BH	(60°-80°)	780.8	4.2	B2/1000		G2/1000
BVH	(80°-90°)	51.5	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-G3
 Type IV Short





REPORT NUMBER: P1449876

CATALOG NUMBER: TWC150_T4_120W_4000K

CANDELA DISTRIBUTION (FULL):

	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°
0°	5946.0	5946.0	5946.0	5946.0	5946.0	5946.0	5946.0	5946.0	5946.0	5946.0	5946.0
1°	5956.9	5956.2	5953.4	5949.2	5946.9	5944.4	5944.7	5940.4	5941.1	5938.5	5937.6
2°	5965.0	5962.2	5957.1	5952.1	5947.6	5941.1	5942.9	5933.4	5932.6	5932.9	5930.7
3°	5971.8	5967.7	5961.3	5954.6	5945.3	5937.2	5936.1	5925.3	5925.0	5925.9	5929.1
4°	5978.1	5972.8	5965.6	5954.0	5941.8	5928.8	5924.9	5915.6	5915.5	5922.7	5931.2
5°	5983.7	5976.8	5966.1	5953.4	5933.8	5919.7	5913.0	5902.9	5906.0	5922.3	5934.6
6°	5991.8	5982.8	5968.4	5950.2	5930.6	5907.9	5898.2	5888.1	5898.1	5920.2	5929.6
7°	5998.3	5988.0	5969.3	5944.8	5920.5	5894.1	5880.3	5871.6	5890.4	5911.5	5916.4
8°	6007.1	5993.7	5969.6	5939.5	5908.8	5877.6	5861.8	5854.1	5880.8	5896.1	5898.4
9°	6015.0	5999.9	5970.7	5932.6	5895.0	5860.3	5841.2	5835.5	5867.3	5875.8	5881.2
10°	6022.2	6004.7	5970.8	5927.6	5882.5	5841.4	5815.9	5816.8	5848.9	5853.0	5863.4
11°	6024.7	6008.6	5969.9	5920.7	5868.1	5822.2	5791.4	5797.5	5826.1	5832.0	5846.0
12°	6024.1	6008.7	5966.8	5909.8	5851.6	5796.8	5765.1	5776.1	5801.2	5810.5	5830.2
13°	6023.5	6005.0	5959.0	5895.3	5830.0	5771.9	5734.7	5750.4	5773.1	5785.2	5815.7
14°	6022.9	6003.8	5952.8	5878.7	5807.5	5747.6	5702.1	5721.7	5742.8	5763.9	5801.4
15°	6022.3	6000.9	5941.7	5863.1	5780.8	5716.6	5668.3	5691.2	5709.9	5740.0	5784.1
16°	6021.6	5994.0	5930.8	5842.1	5752.9	5685.8	5633.4	5657.6	5678.0	5717.1	5764.4
17°	6019.8	5988.9	5919.0	5819.3	5719.6	5648.7	5595.9	5622.8	5643.4	5692.3	5744.3
18°	6015.8	5982.2	5905.7	5795.2	5685.0	5609.6	5554.3	5582.8	5609.8	5665.4	5725.0
19°	6011.2	5973.9	5891.3	5771.4	5647.7	5564.7	5513.3	5542.6	5573.6	5635.9	5703.0
20°	6006.5	5965.6	5876.1	5746.9	5609.7	5519.5	5467.7	5500.6	5539.2	5605.9	5681.1
21°	5998.0	5958.2	5859.9	5720.2	5573.9	5468.9	5423.4	5458.2	5502.0	5578.8	5658.2
22°	5988.7	5946.5	5842.6	5694.1	5532.5	5420.0	5376.0	5410.8	5463.4	5547.3	5633.2
23°	5979.3	5934.0	5824.9	5665.1	5490.5	5365.7	5324.5	5366.2	5420.7	5515.6	5607.2
24°	5971.9	5924.5	5806.7	5638.4	5449.1	5310.7	5273.0	5317.4	5376.1	5478.1	5578.6
25°	5962.6	5909.6	5787.4	5604.8	5405.5	5254.1	5216.2	5269.8	5329.9	5443.6	5552.0
26°	5953.7	5898.4	5766.8	5575.5	5362.4	5195.9	5158.4	5216.8	5283.2	5407.0	5521.3
27°	5945.4	5884.4	5746.5	5542.9	5314.6	5138.3	5098.6	5163.0	5235.0	5368.9	5492.9
28°	5931.4	5870.2	5722.7	5508.4	5269.5	5077.2	5038.7	5107.1	5186.8	5328.6	5458.3
29°	5916.8	5852.5	5700.5	5472.7	5219.2	5017.2	4974.1	5049.5	5138.5	5290.2	5424.6
30°	5905.3	5835.6	5675.1	5435.4	5168.1	4953.7	4909.8	4988.1	5089.1	5248.7	5386.2
31°	5898.5	5821.5	5647.2	5398.8	5115.3	4889.6	4844.7	4924.8	5036.1	5203.4	5348.0
32°	5892.4	5809.4	5617.6	5359.7	5062.6	4822.3	4779.0	4859.2	4985.0	5158.0	5305.7
33°	5888.3	5797.6	5592.4	5318.2	5004.9	4755.2	4710.1	4790.7	4929.9	5110.3	5260.2
34°	5886.5	5787.9	5566.2	5275.9	4949.3	4687.6	4640.1	4723.7	4877.6	5062.3	5207.9
35°	5883.3	5781.7	5540.4	5232.1	4890.0	4616.6	4567.3	4651.3	4818.0	5009.0	5154.2
36°	5886.4	5773.5	5516.8	5186.2	4830.3	4544.1	4490.9	4582.0	4760.7	4955.6	5096.2
37°	5891.3	5771.5	5497.5	5141.8	4767.4	4468.9	4413.7	4508.6	4697.9	4897.3	5034.1
38°	5893.7	5769.5	5474.8	5098.5	4704.0	4393.5	4333.7	4434.5	4632.8	4836.9	4968.7
39°	5896.9	5764.4	5455.1	5051.4	4640.6	4312.0	4250.4	4359.8	4564.6	4770.3	4899.6
40°	5895.5	5756.4	5438.2	5010.0	4571.0	4229.7	4165.9	4285.4	4497.1	4703.1	4830.5
41°	5897.4	5748.0	5416.2	4967.8	4501.5	4146.5	4080.2	4211.0	4428.9	4633.2	4751.8
42°	5902.4	5743.0	5391.8	4931.4	4433.3	4061.1	3991.6	4132.8	4357.5	4558.3	4673.8
43°	5908.5	5738.3	5365.9	4887.7	4364.4	3975.1	3902.9	4053.9	4282.5	4481.0	4584.2
44°	5925.1	5738.7	5343.5	4846.1	4295.8	3884.9	3814.5	3975.2	4209.4	4397.8	4491.3



REPORT NUMBER: P1449876

CATALOG NUMBER: TWC150_T4_120W_4000K

CANDELA DISTRIBUTION (continued):

	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°
45°	5946.9	5750.1	5318.2	4801.6	4232.0	3797.6	3719.0	3893.6	4130.2	4312.9	4388.0
46°	5963.5	5764.3	5293.8	4756.5	4169.4	3703.0	3626.8	3809.0	4050.1	4225.6	4277.3
47°	5984.6	5768.5	5277.9	4707.8	4108.1	3616.3	3532.3	3726.4	3968.7	4136.9	4158.1
48°	5997.7	5778.0	5275.5	4656.5	4049.7	3523.5	3436.7	3637.5	3882.6	4034.7	4030.4
49°	6012.1	5780.1	5260.5	4612.3	3991.1	3436.2	3337.1	3552.3	3793.5	3929.6	3893.7
50°	6017.1	5791.1	5241.4	4560.4	3934.2	3343.8	3236.9	3458.6	3702.1	3814.2	3749.5
51°	6001.7	5797.6	5219.4	4516.9	3874.5	3255.1	3137.9	3364.3	3605.5	3694.0	3598.0
52°	5963.4	5775.1	5193.1	4475.9	3817.7	3166.4	3034.8	3264.5	3504.7	3564.0	3422.1
53°	5926.8	5728.7	5170.4	4431.9	3750.1	3078.6	2931.0	3163.4	3402.0	3428.3	3207.1
54°	5924.4	5690.7	5131.6	4375.1	3674.7	2991.8	2825.9	3059.6	3296.5	3285.0	2935.1
55°	5944.2	5692.0	5075.9	4320.1	3594.1	2899.1	2720.0	2952.7	3183.8	3134.1	2592.7
56°	5959.2	5702.1	5022.6	4258.3	3506.4	2809.0	2616.3	2850.6	3064.3	2972.7	2204.2
57°	5992.2	5709.9	5002.1	4199.1	3415.8	2710.7	2510.3	2743.7	2936.3	2802.0	1832.3
58°	6081.9	5735.9	5000.0	4130.1	3328.0	2608.9	2407.8	2636.6	2800.9	2591.5	1460.5
59°	6223.4	5828.9	4990.8	4026.2	3241.3	2495.8	2306.9	2517.3	2656.5	2336.4	1091.6
60°	6381.0	5966.8	4980.5	3922.2	3145.4	2376.7	2209.2	2404.1	2517.7	1996.7	872.7
61°	6486.0	6123.5	5009.3	3835.5	3046.7	2250.0	2112.8	2279.5	2372.0	1657.1	717.1
62°	6471.4	6204.4	5109.7	3773.5	2935.1	2124.3	2017.2	2153.2	2226.3	1317.6	631.5
63°	6349.2	6157.2	5256.8	3717.3	2819.2	1995.1	1922.1	2027.0	2070.6	1002.4	589.6
64°	6102.5	5993.3	5385.9	3668.9	2692.1	1866.5	1823.3	1897.6	1908.6	769.5	564.6
65°	5771.8	5693.9	5379.8	3647.5	2545.2	1740.5	1720.9	1776.0	1720.7	620.2	542.3
66°	5423.1	5325.2	5209.7	3682.1	2376.9	1612.6	1618.4	1655.4	1532.7	539.0	520.3
67°	4990.4	4960.6	4870.2	3833.3	2212.1	1498.6	1515.4	1534.6	1343.0	501.9	497.0
68°	4504.6	4459.5	4424.5	4054.1	2064.6	1382.9	1393.9	1407.0	1069.5	476.8	472.9
69°	4161.1	4056.2	3960.4	4102.9	1934.5	1276.4	1271.7	1294.7	795.0	452.7	448.7
70°	3987.3	3810.5	3491.6	3823.5	1808.6	1169.7	1145.5	1182.2	590.0	427.6	425.0
71°	3836.2	3679.9	3163.3	3225.3	1699.4	1073.7	1023.1	1076.5	473.7	401.6	401.9
72°	3688.5	3538.1	2987.8	2628.0	1651.2	980.8	904.4	965.6	416.3	375.7	380.5
73°	3528.4	3394.2	2844.3	2227.6	1828.2	889.2	791.1	851.9	383.9	350.2	362.2
74°	3363.8	3246.8	2691.4	2065.0	2304.2	800.8	687.4	740.6	355.3	326.3	342.0
75°	3158.2	3088.8	2523.1	1917.4	2025.0	707.2	589.7	624.1	325.6	303.9	315.9
76°	2937.4	2908.6	2363.6	1797.5	1281.6	613.4	505.7	519.4	298.8	282.9	289.3
77°	2685.9	2722.3	2182.6	1683.3	911.3	519.6	425.8	411.1	272.6	262.1	261.4
78°	2397.8	2513.4	2010.0	1493.1	780.2	472.0	355.6	328.5	248.3	237.3	233.3
79°	2106.5	2265.9	1874.3	1201.5	844.3	415.5	292.8	276.7	223.8	210.8	208.8
80°	1799.9	2006.0	1722.7	1010.2	895.1	358.0	240.0	242.2	201.6	184.2	184.3
81°	1507.9	1721.5	1549.1	907.2	705.7	326.8	195.7	211.2	179.5	157.6	160.0
82°	1250.7	1444.8	1354.6	821.6	515.8	285.8	151.5	180.3	157.4	127.5	145.5
83°	1042.9	1228.6	1076.5	697.4	325.9	255.0	117.3	149.4	132.1	101.9	127.6
84°	743.4	946.6	883.4	572.2	273.8	205.6	87.6	120.2	106.6	87.2	106.9
85°	534.6	696.1	680.8	447.0	234.2	131.1	63.9	93.9	82.1	72.5	84.2
86°	326.6	446.7	478.0	192.9	191.7	86.1	43.9	69.3	58.3	53.9	59.6
87°	136.8	197.2	275.2	75.9	133.6	69.0	30.5	46.3	42.1	38.0	42.2
88°	68.2	98.0	139.2	55.2	42.2	51.9	17.1	31.1	28.5	22.2	24.9
89°	2.2	1.9	3.4	36.9	31.8	34.9	4.0	15.8	15.0	6.6	7.9



REPORT NUMBER: P1449876
 CATALOG NUMBER: TWC150_T4_120W_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: P1449876
 CATALOG NUMBER: TWC150_T4_120W_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: P1449876
CATALOG NUMBER: TWC150_T4_120W_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: P1449876

CATALOG NUMBER: TWC150_T4_120W_4000K

CANDELA DISTRIBUTION (continued):

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
0°	5946.0	5946.0	5946.0	5946.0	5946.0	5946.0	5946.0	5946.0	5946.0	5946.0	5946.0
1°	5938.0	5938.5	5939.7	5941.0	5938.3	5939.4	5942.6	5949.0	5950.7	5953.6	5955.4
2°	5932.8	5934.6	5933.7	5934.2	5933.3	5934.2	5937.4	5948.5	5949.1	5956.0	5959.9
3°	5930.7	5933.8	5932.3	5930.5	5928.1	5928.1	5932.0	5944.5	5948.5	5957.7	5964.3
4°	5938.4	5942.1	5938.7	5932.4	5924.4	5919.9	5922.4	5935.9	5945.0	5954.6	5966.4
5°	5941.4	5944.8	5942.6	5936.3	5924.7	5912.8	5913.1	5928.7	5938.7	5955.1	5968.7
6°	5934.7	5936.2	5937.4	5934.9	5924.9	5904.1	5899.3	5916.8	5930.9	5951.2	5968.4
7°	5921.0	5922.9	5924.2	5925.4	5918.2	5898.9	5887.1	5902.7	5920.4	5945.7	5966.8
8°	5903.2	5907.8	5908.1	5908.6	5907.0	5893.4	5871.1	5885.7	5909.1	5938.6	5966.1
9°	5890.6	5894.7	5896.9	5891.4	5891.4	5884.2	5853.3	5869.4	5895.7	5929.7	5961.2
10°	5875.8	5881.3	5881.7	5875.0	5870.7	5869.3	5836.2	5849.6	5878.5	5919.2	5953.4
11°	5864.7	5872.5	5869.2	5858.6	5849.5	5848.3	5816.3	5826.5	5861.3	5904.7	5946.6
12°	5853.0	5865.4	5859.5	5844.1	5828.7	5826.2	5798.3	5803.0	5842.6	5886.6	5937.9
13°	5844.4	5855.4	5847.0	5828.3	5805.7	5798.8	5775.6	5778.1	5819.9	5867.3	5929.3
14°	5830.1	5841.2	5835.3	5814.9	5785.6	5769.6	5751.4	5750.3	5794.4	5847.4	5914.6
15°	5816.5	5829.7	5822.8	5800.0	5762.2	5740.1	5723.7	5718.4	5767.3	5823.2	5897.0
16°	5799.1	5814.9	5806.5	5779.7	5741.4	5708.0	5694.2	5686.2	5735.1	5797.0	5874.8
17°	5780.0	5798.2	5789.7	5761.3	5718.1	5675.5	5661.7	5649.4	5699.9	5765.1	5853.7
18°	5764.8	5784.9	5774.5	5742.3	5692.1	5641.2	5624.7	5614.1	5661.4	5730.6	5833.9
19°	5747.9	5769.6	5758.6	5720.6	5664.9	5611.4	5587.5	5572.6	5619.2	5695.3	5809.8
20°	5729.0	5750.8	5739.1	5699.7	5636.4	5576.1	5544.9	5529.2	5572.6	5662.4	5790.2
21°	5710.4	5734.1	5718.2	5678.6	5607.0	5540.6	5504.4	5484.7	5524.7	5627.4	5767.7
22°	5687.4	5718.1	5699.0	5652.6	5577.8	5503.1	5460.8	5437.0	5477.9	5590.9	5742.2
23°	5669.4	5698.2	5680.9	5626.4	5546.8	5463.7	5416.3	5383.8	5427.2	5551.5	5716.0
24°	5650.7	5678.8	5660.8	5597.6	5514.6	5420.8	5370.4	5334.6	5375.3	5512.2	5688.7
25°	5626.1	5657.0	5638.4	5570.1	5479.4	5377.5	5323.4	5277.8	5321.8	5470.8	5662.3
26°	5602.1	5632.6	5613.3	5542.9	5444.3	5327.5	5272.2	5220.9	5265.6	5427.9	5632.7
27°	5575.1	5603.5	5585.7	5514.8	5406.5	5282.2	5219.2	5162.2	5211.0	5386.1	5602.1
28°	5542.3	5575.4	5555.3	5483.8	5368.5	5234.7	5163.7	5104.3	5155.8	5339.9	5569.6
29°	5509.1	5542.5	5522.1	5450.8	5326.8	5184.9	5105.6	5041.5	5093.0	5293.6	5534.0
30°	5474.0	5503.8	5487.7	5416.5	5286.2	5136.6	5046.8	4980.7	5031.7	5243.4	5500.5
31°	5431.8	5461.1	5446.1	5375.5	5243.9	5085.4	4983.7	4915.5	4970.0	5194.6	5465.7
32°	5387.3	5413.0	5400.3	5334.5	5198.5	5035.2	4920.7	4851.9	4906.5	5143.3	5432.7
33°	5335.7	5365.3	5351.3	5285.9	5150.3	4981.5	4850.8	4784.2	4841.0	5091.5	5391.6
34°	5283.9	5311.4	5298.9	5238.9	5102.3	4925.7	4785.7	4716.5	4776.9	5035.6	5354.0
35°	5227.0	5255.2	5243.8	5183.3	5052.7	4866.9	4711.3	4643.3	4707.5	4978.8	5310.0
36°	5168.6	5195.2	5183.4	5128.5	4998.6	4808.2	4641.9	4571.6	4635.5	4922.5	5267.4
37°	5103.7	5133.2	5122.1	5064.7	4942.6	4745.8	4567.5	4493.6	4566.2	4860.7	5222.9
38°	5039.3	5066.2	5057.9	5001.3	4885.4	4682.7	4496.8	4418.2	4488.2	4802.6	5183.6
39°	4967.2	4991.7	4987.6	4931.2	4821.2	4616.2	4421.7	4335.5	4412.5	4737.7	5141.5
40°	4894.4	4913.3	4913.8	4864.0	4753.8	4549.4	4349.8	4252.7	4329.0	4673.2	5098.7
41°	4807.5	4820.7	4830.1	4792.0	4683.0	4482.7	4273.2	4167.6	4252.6	4603.6	5057.4
42°	4711.0	4722.7	4737.9	4714.0	4610.6	4412.7	4195.1	4083.6	4165.8	4536.3	5018.9
43°	4609.3	4610.1	4633.6	4631.5	4533.3	4340.2	4116.5	3993.6	4080.8	4468.7	4981.9
44°	4495.6	4494.4	4528.7	4539.1	4454.8	4267.3	4036.1	3905.4	3992.8	4404.0	4940.0



REPORT NUMBER: P1449876

CATALOG NUMBER: TWC150_T4_120W_4000K

CANDELA DISTRIBUTION (continued):

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
45°	4375.9	4366.5	4407.5	4440.0	4373.0	4190.1	3957.4	3813.2	3906.7	4344.2	4904.0
46°	4243.7	4231.4	4280.6	4332.6	4288.0	4113.2	3873.0	3717.7	3815.9	4278.0	4856.4
47°	4106.4	4084.6	4144.1	4219.0	4200.6	4033.4	3790.4	3623.4	3726.3	4221.1	4810.5
48°	3958.0	3924.5	3998.9	4094.4	4107.7	3949.3	3702.9	3524.4	3634.7	4158.4	4761.1
49°	3791.1	3715.2	3836.3	3962.0	4005.5	3861.9	3613.4	3430.6	3542.9	4106.5	4721.6
50°	3577.6	3460.0	3639.9	3825.3	3896.3	3773.8	3522.3	3328.2	3451.6	4048.6	4671.5
51°	3311.0	3124.5	3385.8	3674.4	3780.2	3680.0	3426.8	3228.7	3360.5	3996.6	4626.4
52°	2961.7	2724.7	3057.7	3513.1	3656.5	3584.6	3331.4	3124.0	3273.4	3933.0	4586.9
53°	2569.5	2295.8	2673.1	3323.8	3527.4	3480.9	3231.6	3022.8	3182.1	3867.6	4542.2
54°	2165.4	1920.0	2240.4	3082.1	3391.1	3378.2	3134.6	2918.5	3098.6	3796.8	4493.9
55°	1761.3	1544.2	1872.0	2770.6	3244.3	3267.5	3028.9	2810.8	3007.3	3720.0	4435.5
56°	1359.7	1171.7	1503.7	2405.3	3092.0	3153.4	2924.5	2705.6	2918.7	3635.8	4381.1
57°	1074.0	953.2	1137.1	2015.5	2930.9	3029.8	2815.2	2594.6	2821.9	3543.0	4322.9
58°	882.0	807.0	924.4	1625.6	2755.6	2898.7	2705.7	2491.3	2720.5	3459.5	4259.2
59°	752.8	716.2	781.4	1239.2	2546.0	2764.2	2590.4	2385.1	2610.9	3369.2	4164.6
60°	679.9	672.4	695.9	972.7	2284.4	2629.7	2474.5	2289.1	2489.9	3278.0	4064.1
61°	646.3	650.1	653.1	788.2	1935.3	2487.8	2352.8	2189.7	2369.1	3177.3	3970.5
62°	623.9	630.1	630.0	671.0	1586.2	2344.5	2229.3	2094.1	2236.2	3072.4	3907.5
63°	604.0	612.1	609.3	608.8	1238.6	2199.0	2107.3	1997.2	2110.1	2960.0	3855.8
64°	584.2	592.6	589.9	576.4	941.0	2051.7	1980.4	1901.2	1974.0	2840.2	3806.9
65°	563.3	570.9	569.5	553.3	729.2	1900.7	1857.4	1798.5	1847.8	2704.8	3781.2
66°	541.1	550.9	546.3	531.4	602.3	1721.1	1735.8	1688.7	1715.9	2536.6	3808.7
67°	521.0	532.8	525.4	508.1	532.3	1541.5	1614.0	1574.2	1598.1	2368.6	3941.1
68°	500.8	514.4	505.8	483.9	496.4	1361.9	1492.3	1450.1	1481.6	2210.8	4173.3
69°	480.8	495.5	484.9	458.6	471.1	1089.0	1376.1	1329.2	1367.6	2082.3	4280.2
70°	461.1	480.0	465.7	434.3	446.0	806.5	1266.5	1205.3	1259.2	1949.1	4080.4
71°	445.3	463.8	449.1	410.6	420.4	593.9	1160.5	1081.5	1154.6	1833.6	3539.2
72°	426.4	441.0	431.8	388.7	395.7	473.0	1054.9	959.2	1056.5	1762.3	2917.5
73°	400.6	414.2	407.2	368.6	369.5	411.4	947.2	844.6	962.5	1837.6	2437.5
74°	372.7	384.7	380.9	351.1	344.7	377.3	842.0	744.3	875.9	2308.1	2171.9
75°	343.1	354.3	350.8	326.6	319.0	347.3	730.5	644.5	780.0	2392.6	2023.4
76°	313.6	324.0	320.7	300.5	297.0	318.5	621.7	544.7	691.8	1631.0	1912.6
77°	282.2	293.2	287.7	271.9	274.2	290.9	513.8	462.9	603.8	1016.3	1779.8
78°	254.8	270.8	257.7	244.1	252.6	265.4	413.8	386.7	515.8	856.7	1624.1
79°	235.5	251.9	236.7	216.4	225.7	239.9	330.0	321.3	466.1	788.4	1323.3
80°	219.2	234.4	218.8	188.7	198.6	215.3	273.4	263.4	408.8	991.5	1105.0
81°	194.9	206.7	196.1	161.3	171.5	192.6	236.0	212.6	360.0	738.4	978.0
82°	170.6	178.9	173.4	146.1	144.3	169.8	204.0	169.8	324.9	545.5	886.1
83°	146.3	151.1	150.6	130.9	111.4	146.9	171.9	131.0	291.8	353.9	800.7
84°	117.4	120.9	121.5	110.9	91.2	120.6	139.9	99.6	259.5	293.5	617.5
85°	85.4	88.3	91.9	90.7	76.7	95.2	111.0	77.2	180.3	253.4	431.9
86°	63.2	66.6	67.2	65.7	60.3	70.4	83.1	54.9	99.4	211.7	246.3
87°	44.9	47.2	47.8	44.6	41.9	50.2	59.3	32.7	69.1	146.8	103.2
88°	26.6	27.8	28.4	30.9	29.0	34.2	40.0	17.4	39.1	82.7	51.7
89°	8.4	8.7	9.3	17.2	16.1	18.2	20.8	6.4	9.1	62.2	1.3



REPORT NUMBER: P1449876
 CATALOG NUMBER: TWC150_T4_120W_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: P1449876
 CATALOG NUMBER: TWC150_T4_120W_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: P1449876
CATALOG NUMBER: TWC150_T4_120W_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: P1449876
 CATALOG NUMBER: TWC150_T4_120W_4000K

CANDELA DISTRIBUTION (continued):

	330°	345°	360°
0°	5946.0	5946.0	5946.0
1°	5955.1	5956.4	5956.9
2°	5962.9	5964.4	5965.0
3°	5969.7	5971.0	5971.8
4°	5973.3	5978.1	5978.1
5°	5975.6	5983.2	5983.7
6°	5980.2	5990.4	5991.8
7°	5984.6	5994.2	5998.3
8°	5987.0	6000.8	6007.1
9°	5988.7	6006.1	6015.0
10°	5989.0	6012.7	6022.2
11°	5989.6	6016.3	6024.7
12°	5986.2	6015.7	6024.1
13°	5980.7	6014.5	6023.5
14°	5973.6	6014.5	6022.9
15°	5963.6	6010.9	6022.3
16°	5951.1	6004.0	6021.6
17°	5942.6	6001.0	6019.8
18°	5928.7	5994.9	6015.8
19°	5919.0	5989.9	6011.2
20°	5907.2	5983.0	6006.5
21°	5894.3	5974.2	5998.0
22°	5876.7	5964.6	5988.7
23°	5860.0	5952.3	5979.3
24°	5842.3	5941.8	5971.9
25°	5822.6	5931.3	5962.6
26°	5805.4	5918.7	5953.7
27°	5783.3	5904.6	5945.4
28°	5765.1	5894.9	5931.4
29°	5741.7	5876.7	5916.8
30°	5719.8	5861.0	5905.3
31°	5694.6	5846.0	5898.5
32°	5667.3	5835.8	5892.4
33°	5642.8	5825.8	5888.3
34°	5619.5	5819.9	5886.5
35°	5595.2	5809.4	5883.3
36°	5573.1	5806.0	5886.4
37°	5553.5	5803.6	5891.3
38°	5533.3	5801.9	5893.7
39°	5520.2	5801.0	5896.9
40°	5501.5	5794.4	5895.5
41°	5484.1	5786.5	5897.4
42°	5460.4	5782.8	5902.4
43°	5438.3	5781.1	5908.5
44°	5415.2	5780.7	5925.1



REPORT NUMBER: P1449876
 CATALOG NUMBER: TWC150_T4_120W_4000K

CANDELA DISTRIBUTION (continued):

	330°	345°	360°
45°	5394.8	5792.9	5946.9
46°	5370.5	5804.9	5963.5
47°	5359.8	5814.3	5984.6
48°	5355.0	5824.4	5997.7
49°	5341.2	5832.1	6012.1
50°	5325.4	5841.0	6017.1
51°	5304.8	5841.8	6001.7
52°	5286.0	5820.9	5963.4
53°	5265.6	5773.2	5926.8
54°	5235.5	5739.3	5924.4
55°	5181.9	5736.7	5944.2
56°	5123.4	5753.0	5959.2
57°	5091.7	5760.0	5992.2
58°	5086.9	5787.0	6081.9
59°	5078.9	5874.8	6223.4
60°	5073.3	6009.5	6381.0
61°	5100.5	6165.9	6486.0
62°	5193.3	6253.5	6471.4
63°	5341.3	6213.7	6349.2
64°	5486.7	6058.6	6102.5
65°	5495.6	5779.9	5771.8
66°	5356.7	5410.4	5423.1
67°	5050.8	5041.3	4990.4
68°	4625.7	4547.0	4504.6
69°	4154.0	4110.6	4161.1
70°	3679.4	3847.2	3987.3
71°	3295.7	3706.8	3836.2
72°	3087.0	3573.5	3688.5
73°	2935.6	3417.6	3528.4
74°	2786.7	3275.1	3363.8
75°	2615.2	3106.0	3158.2
76°	2443.3	2929.1	2937.4
77°	2255.4	2736.2	2685.9
78°	2077.1	2538.9	2397.8
79°	1931.6	2292.7	2106.5
80°	1789.9	2030.6	1799.9
81°	1625.5	1739.6	1507.9
82°	1429.1	1457.5	1250.7
83°	1170.1	1255.9	1042.9
84°	932.3	987.6	743.4
85°	732.1	735.0	534.6
86°	534.4	482.9	326.6
87°	336.7	230.8	136.8
88°	27.1	115.2	68.2
89°	14.0	1.7	2.2



REPORT NUMBER: P1449876
CATALOG NUMBER: TWC150_T4_120W_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: P1449876
CATALOG NUMBER: TWC150_T4_120W_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: P1449876
CATALOG NUMBER: TWC150_T4_120W_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

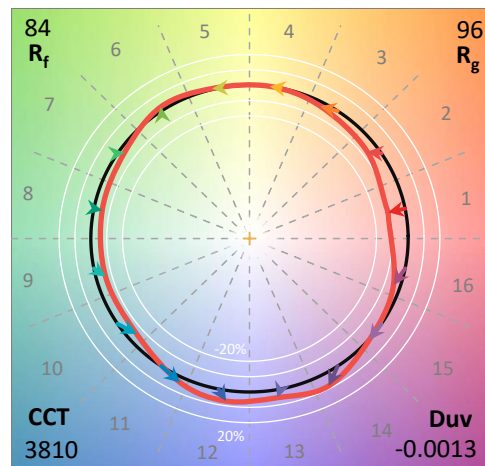
Test Information

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

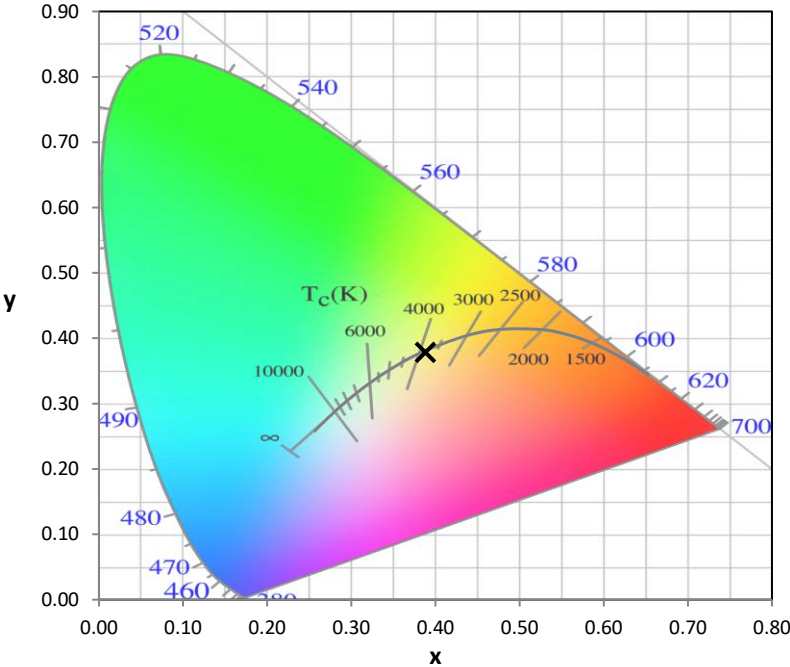
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.8

REPORT NUMBER: SP1-2601-659-2

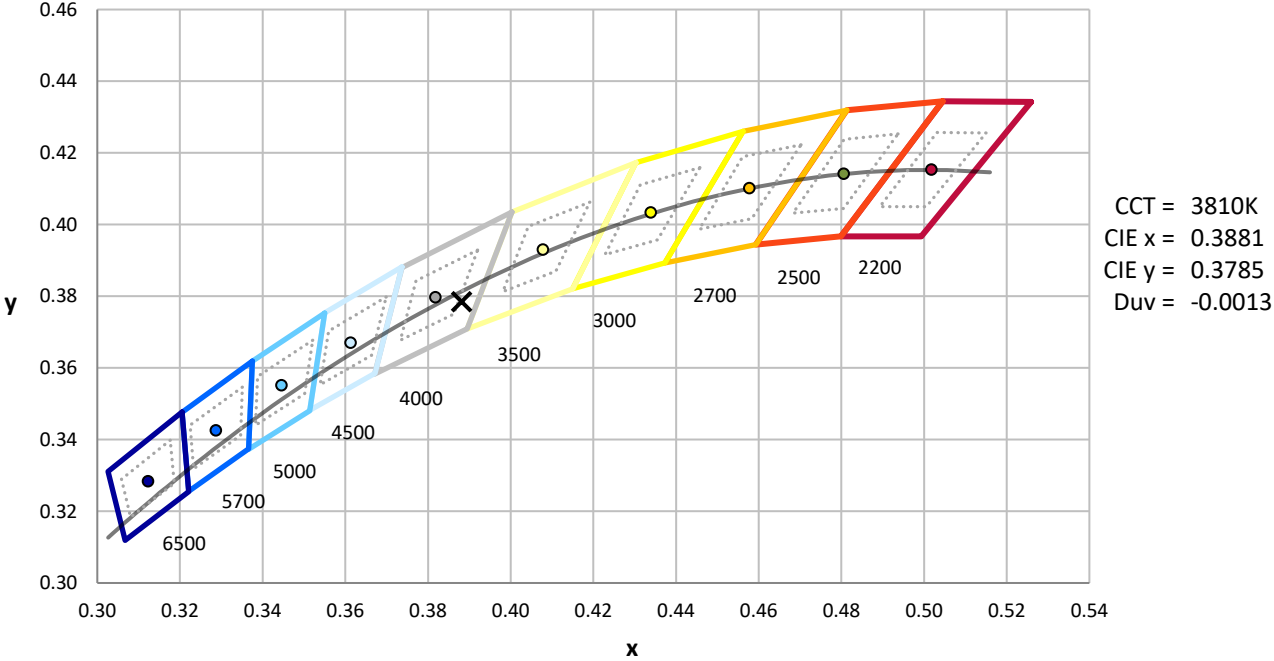
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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

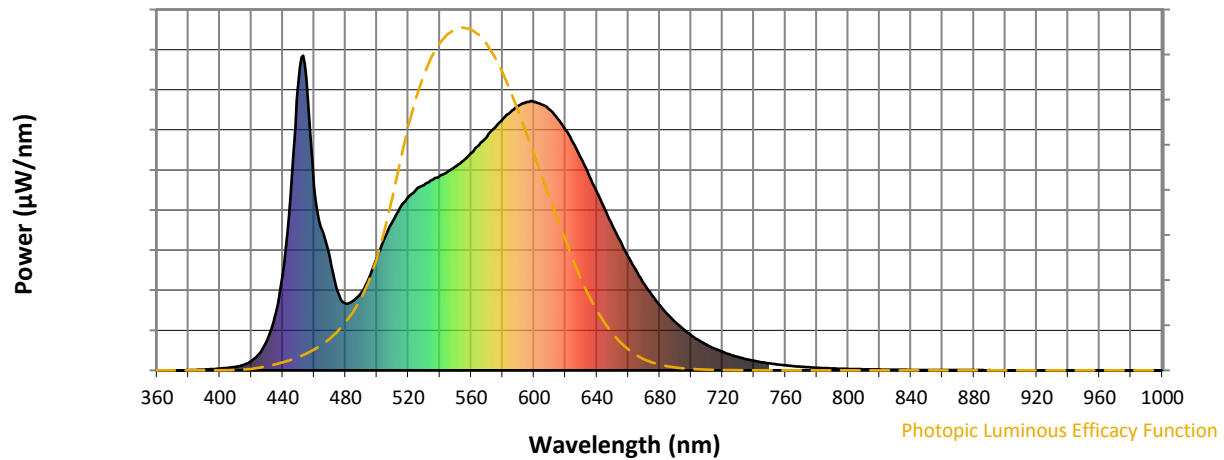


CCT = 3810K
 CIE x = 0.3881
 CIE y = 0.3785
 Duv = -0.0013

Point lies inside the ANSI 4000K 7-step quadrangle

REPORT NUMBER: SP1-2601-659-2

Photopic Flux vs. Wavelength

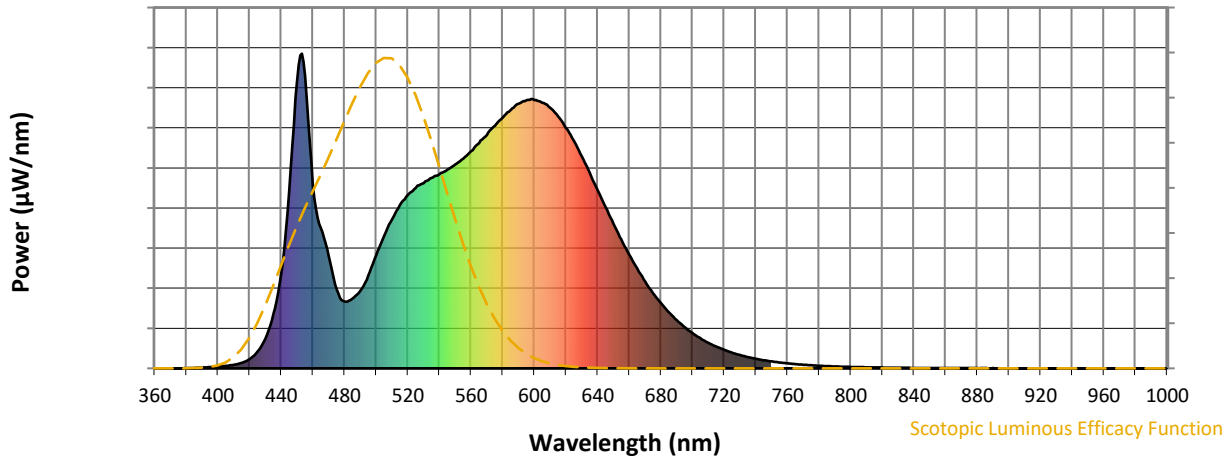


Photopic Lumens: NR

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



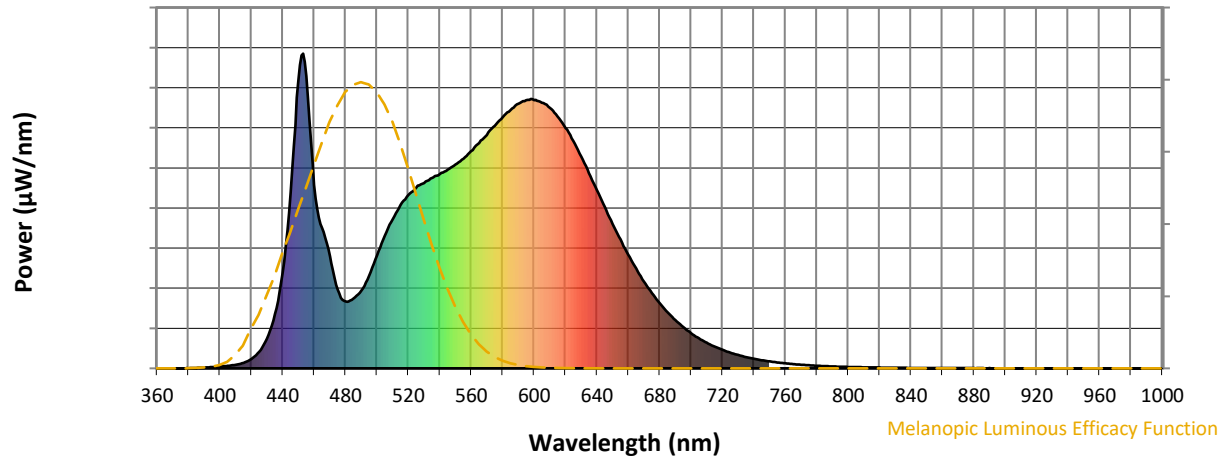
Scotopic Lumens: NR

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



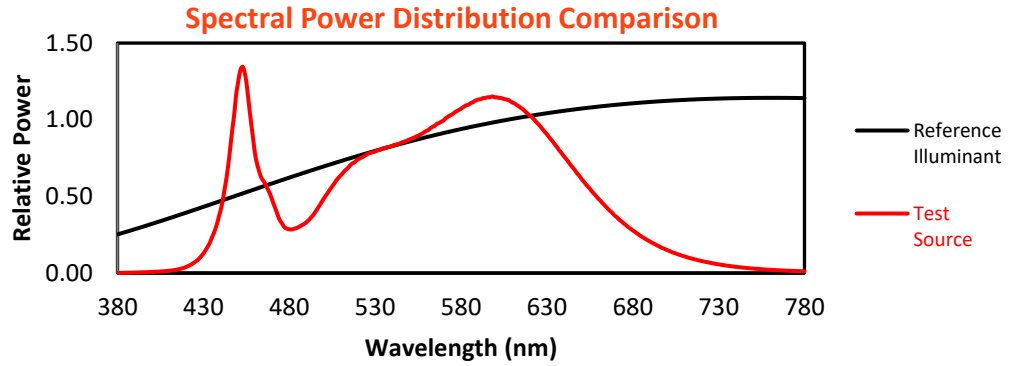
Melanopic Lumens: NR

M/P: 3.35

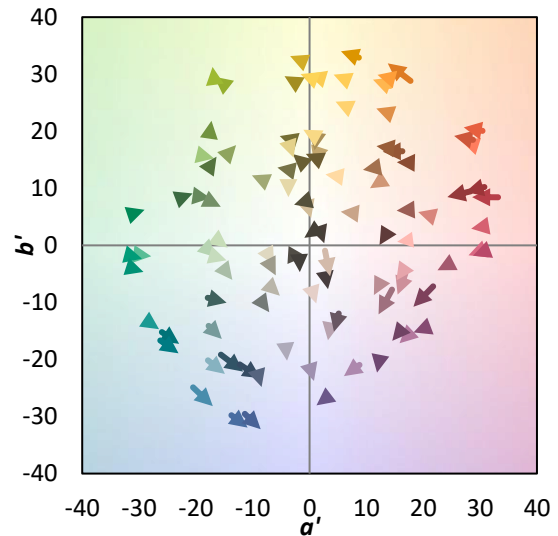
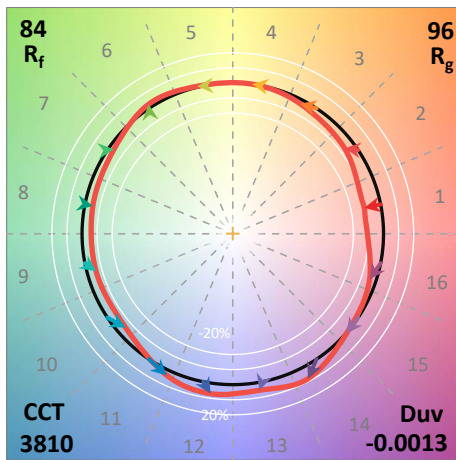
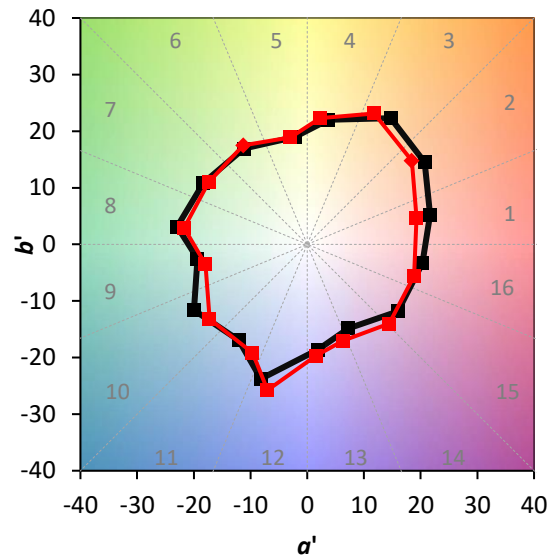
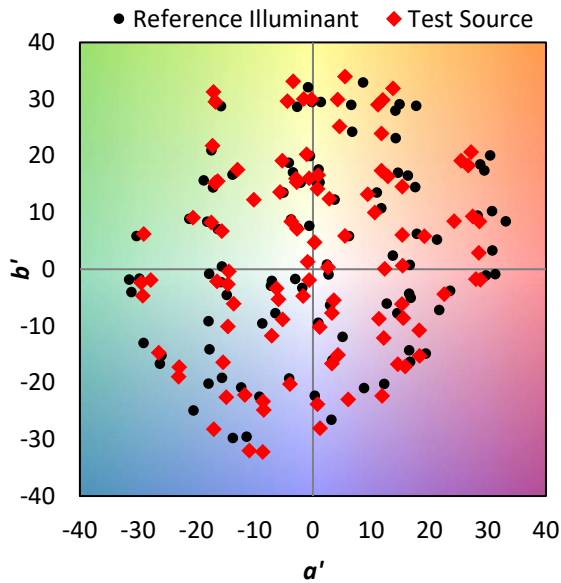
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	247	NR	620	764	NR	750	22	NR	880	1	NR
365	0	NR	495	294	NR	625	723	NR	755	19	NR	885	1	NR
370	0	NR	500	359	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 $R_a = 84.5$
 $R_9 = 15.9$

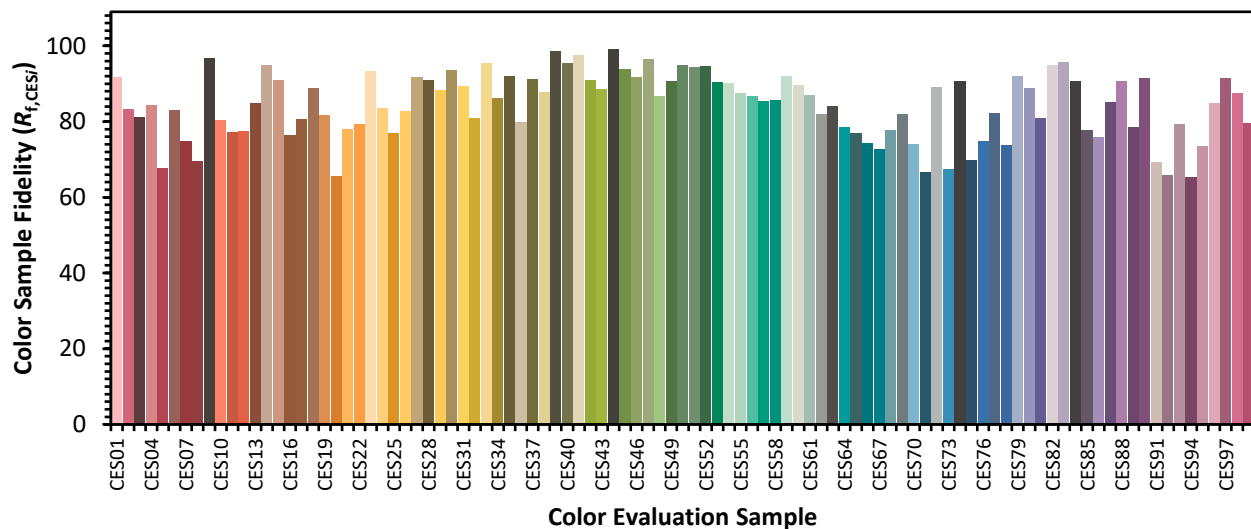


Color Vector Graphics

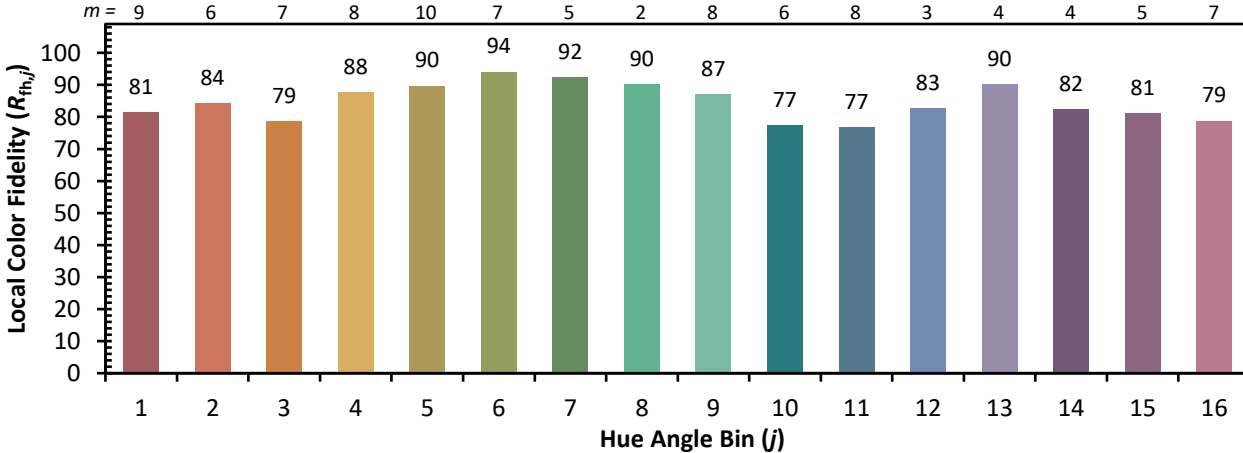
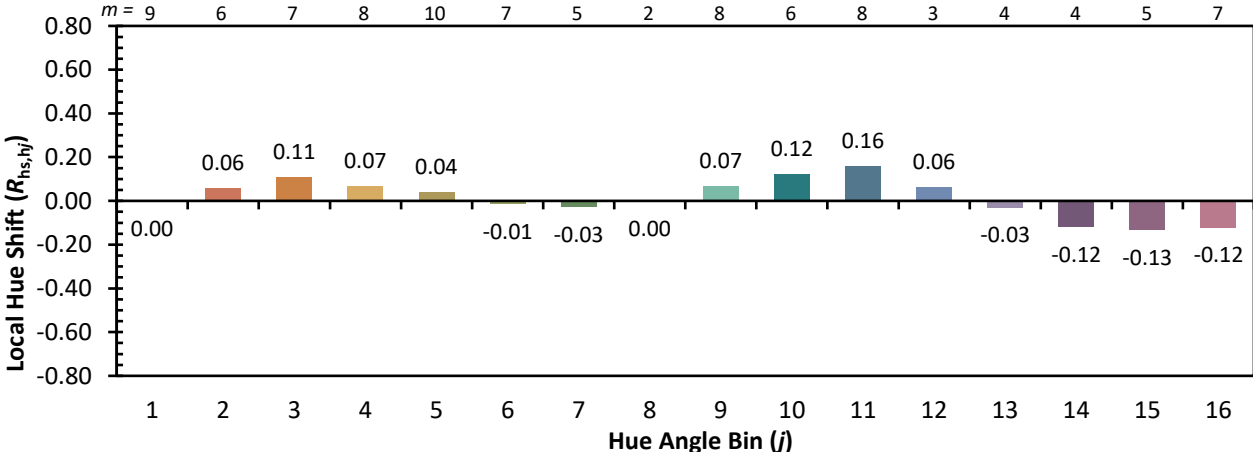
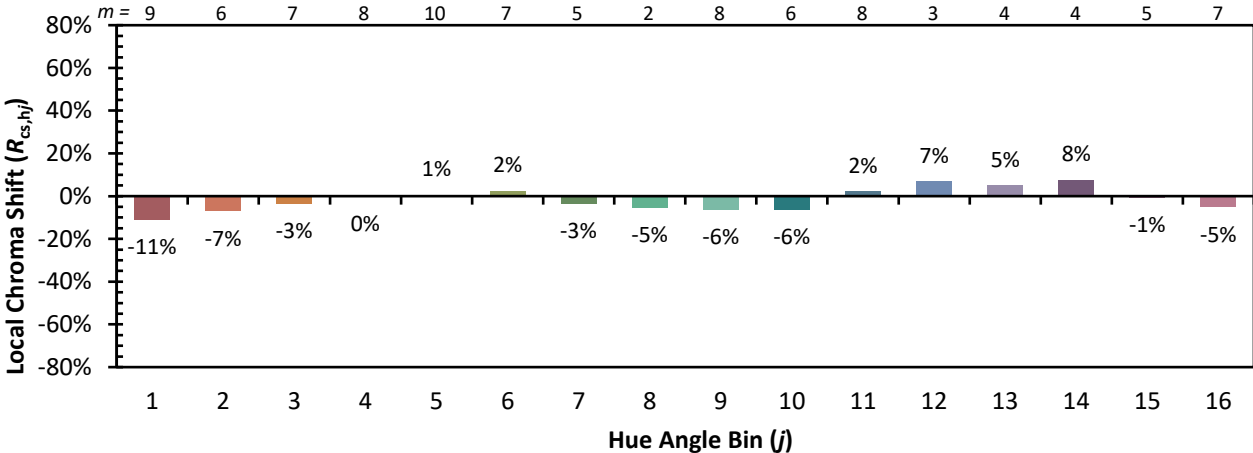


Individual Sample Fidelity Index ($R_{f,i}$)

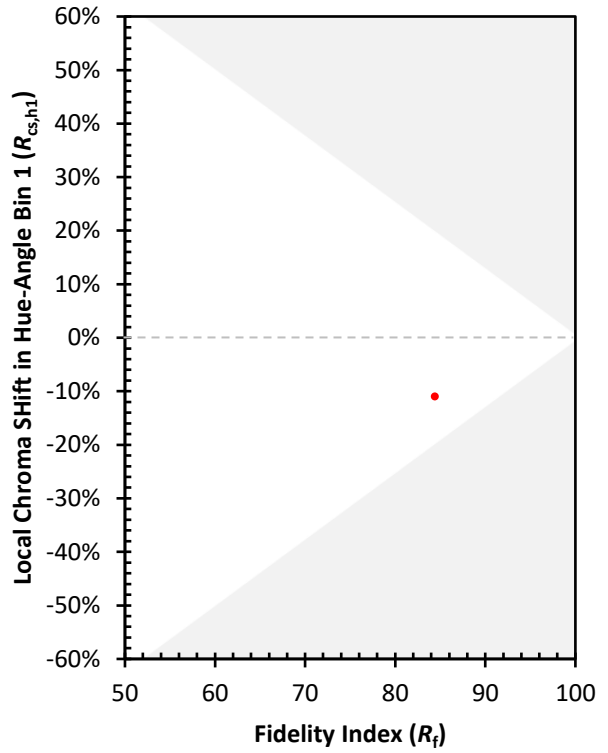
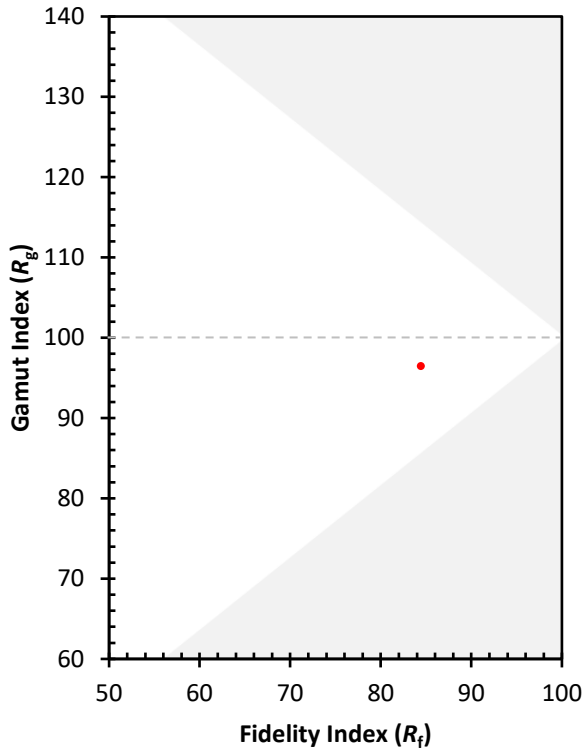
CES01 = 86	CES26 = 83	CES51 = 94	CES76 = 75
CES02 = 62	CES27 = 92	CES52 = 95	CES77 = 82
CES03 = 31	CES28 = 91	CES53 = 90	CES78 = 74
CES04 = 70	CES29 = 88	CES54 = 90	CES79 = 92
CES05 = 48	CES30 = 94	CES55 = 88	CES80 = 89
CES06 = 51	CES31 = 89	CES56 = 87	CES81 = 81
CES07 = 41	CES32 = 81	CES57 = 86	CES82 = 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)