

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: P1449882

Luminaire Tested: **TWC150_T4_60W_4000K**

Issue Date: 5/19/2026

Test Information

Test Method: LM-79-08
Report Number: P1449882
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_60W_4000K
Description: Tapered Wall Cutoff Wall Mount Luminaire at, T4 distribution, 60W
4000K settings
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9536 lumens
Efficiency: N/A
Efficacy: 167.3 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

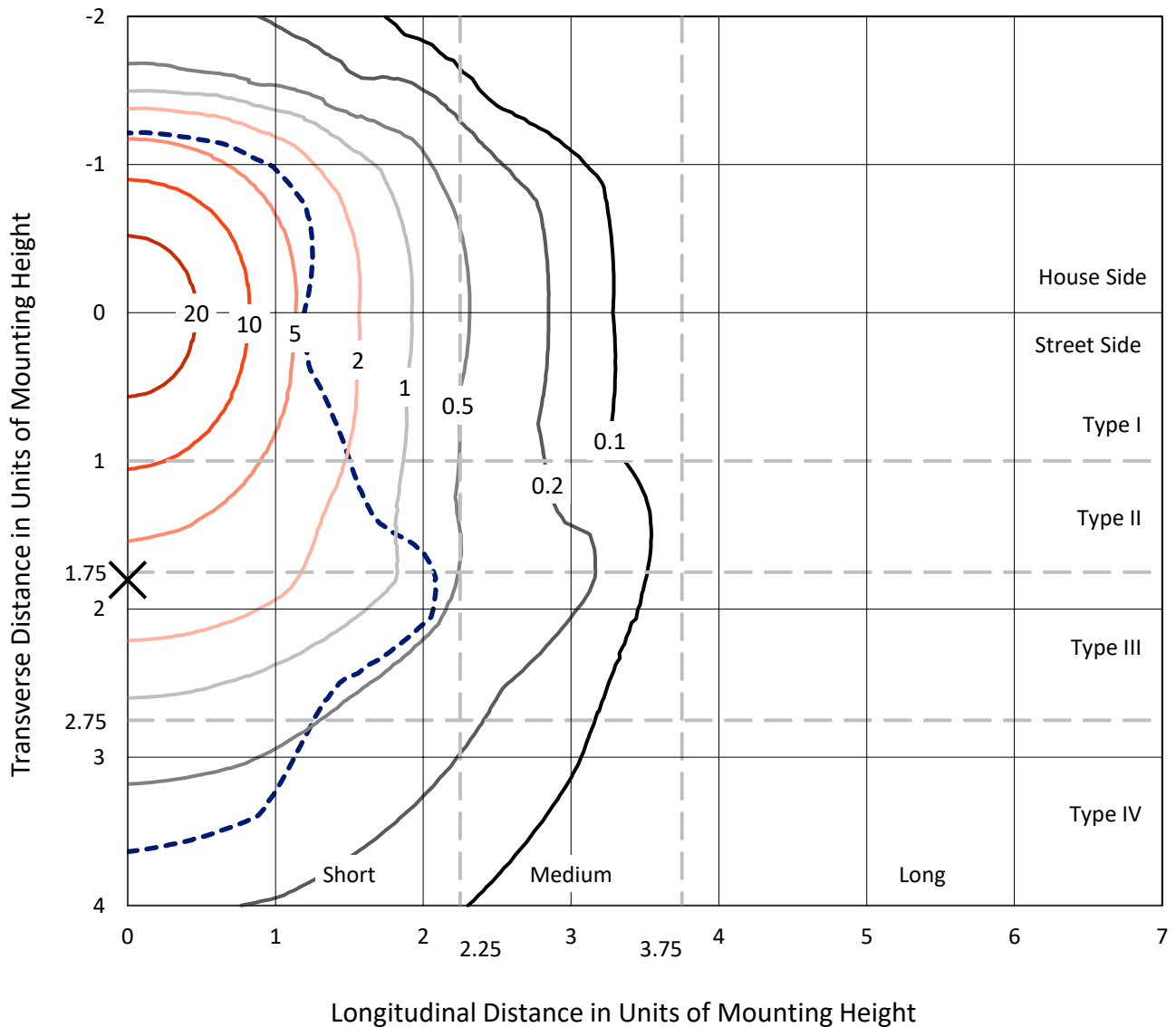
Input Watts (W): 57
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

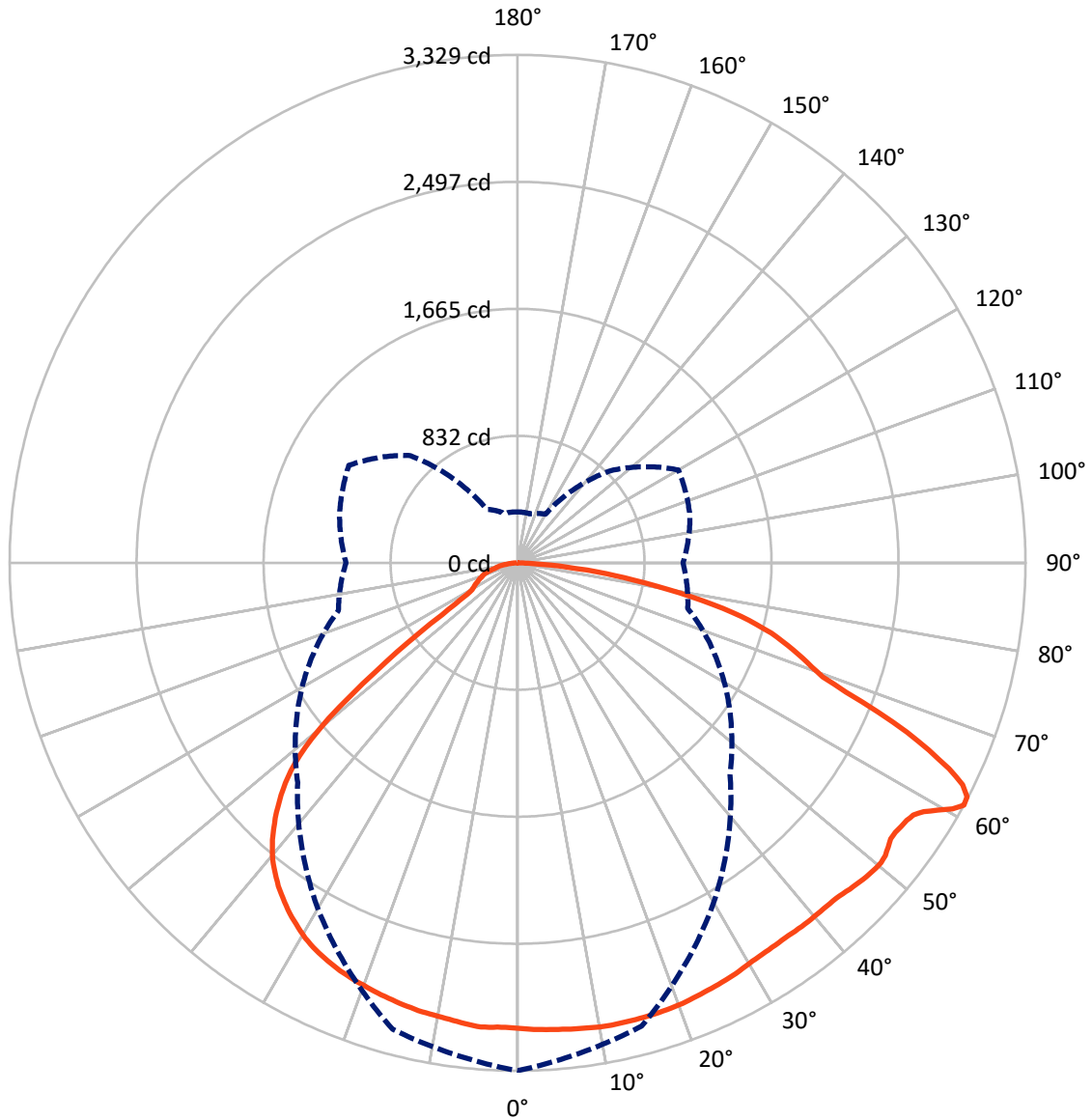
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 30.5 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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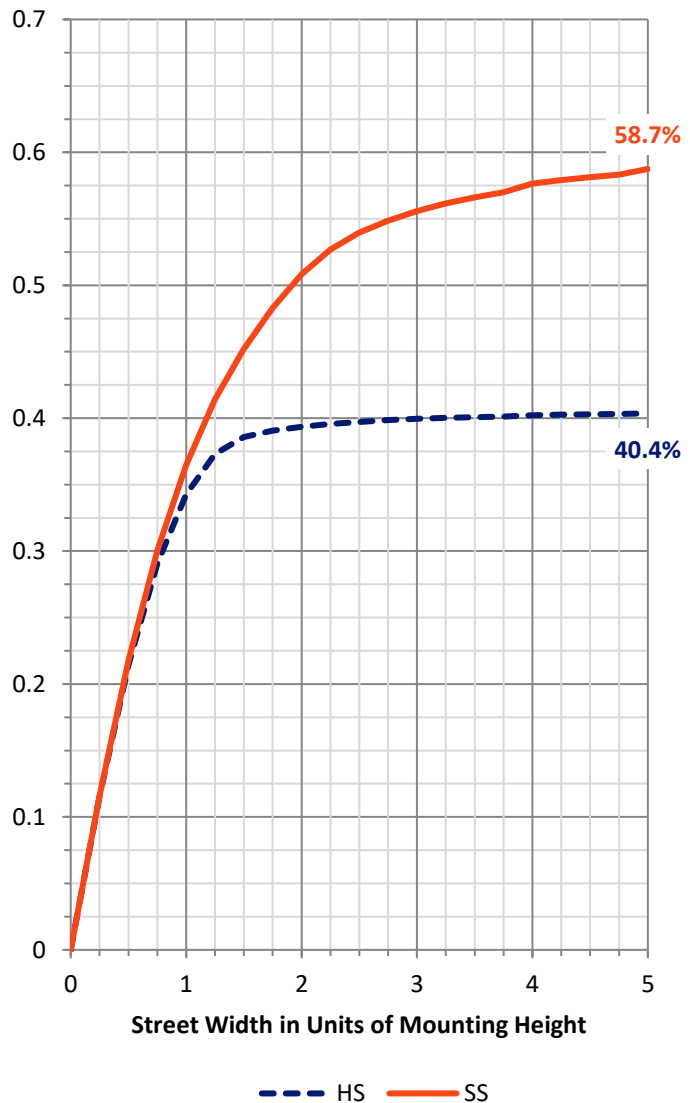
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3876.7	0.0	3876.7
	% Fixture	40.7	0.0	40.7
Street Side	Lumens	5659.3	0.0	5659.3
	% Fixture	59.3	0.0	59.3
Total	Lumens	9536.0	0.0	9536.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	290.4	3.0
10°-20°	843.6	8.8
20°-30°	1311.6	13.8
30°-40°	1643.7	17.2
40°-50°	1789.8	18.8
50°-60°	1616.8	17.0
60°-70°	1230.9	12.9
70°-80°	650.9	6.8
80°-90°	158.3	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°	9536.0	100.0
0°-180°	9536.0	100.0

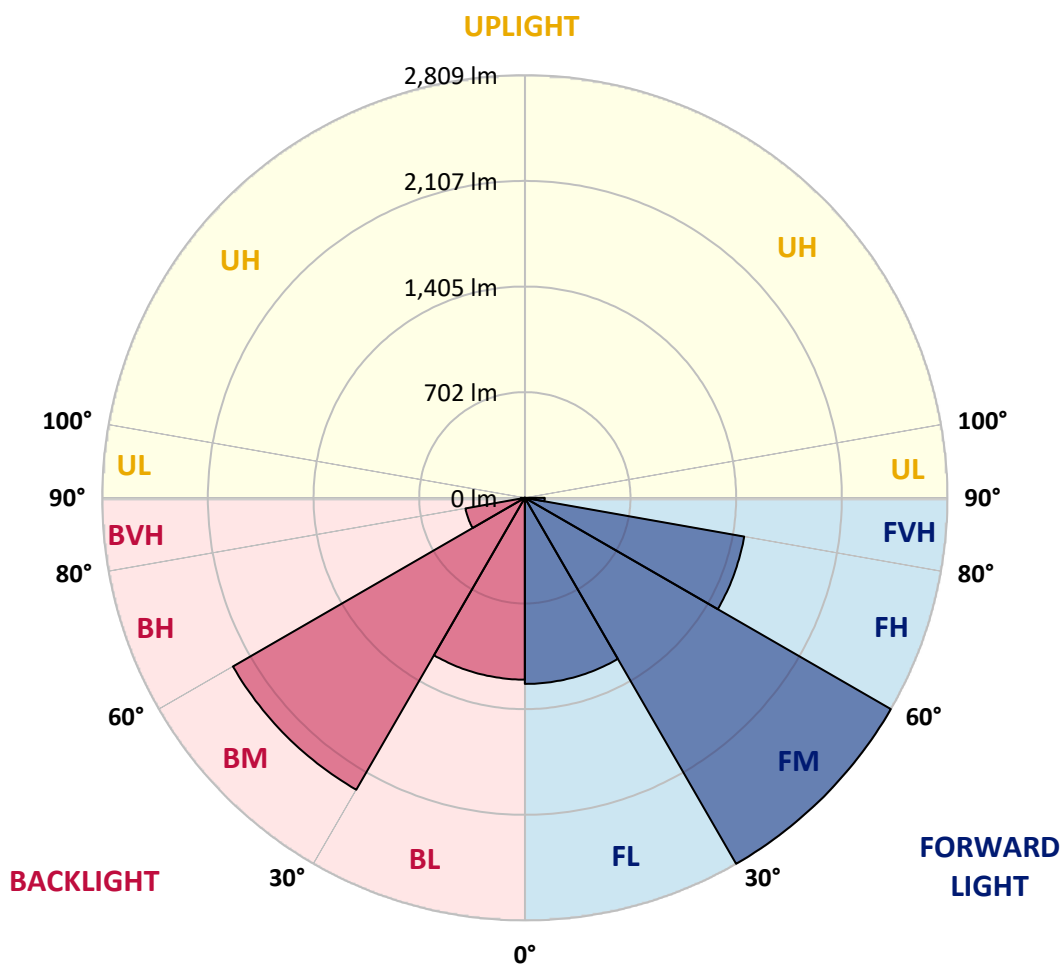


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1237.0	13.0			
FM (30°-60°)	2809.3	29.5			
FH (60°-80°)	1481.0	15.5			G1/1800
FVH (80°-90°)	131.9	1.4			G2/225
BL (0°-30°)	1208.5	12.7	B3/2500		
BM (30°-60°)	2241.0	23.5	B2/2500		
BH (60°-80°)	400.8	4.2	B1/500		G1/500
BVH (80°-90°)	26.4	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°	3052.1	3052.1	3052.1	3052.1	3052.1	3052.1	3052.1	3052.1	3052.1	3052.1	3052.1
1°	3057.7	3057.3	3055.9	3053.7	3052.5	3051.3	3051.4	3049.2	3049.5	3048.2	3047.7
2°	3061.8	3060.4	3057.7	3055.2	3052.9	3049.5	3050.4	3045.6	3045.2	3045.3	3044.2
3°	3065.3	3063.2	3059.9	3056.5	3051.7	3047.6	3047.0	3041.4	3041.3	3041.7	3043.4
4°	3068.6	3065.8	3062.1	3056.1	3049.9	3043.2	3041.2	3036.4	3036.4	3040.1	3044.4
5°	3071.4	3067.8	3062.4	3055.8	3045.8	3038.6	3035.1	3029.9	3031.5	3039.9	3046.2
6°	3075.6	3071.0	3063.5	3054.2	3044.1	3032.5	3027.5	3022.3	3027.5	3038.8	3043.6
7°	3078.9	3073.6	3064.0	3051.4	3039.0	3025.4	3018.3	3013.9	3023.5	3034.3	3036.9
8°	3083.4	3076.5	3064.2	3048.7	3033.0	3017.0	3008.9	3004.9	3018.6	3026.4	3027.6
9°	3087.5	3079.7	3064.7	3045.2	3025.9	3008.1	2998.3	2995.3	3011.7	3016.0	3018.8
10°	3091.2	3082.2	3064.8	3042.6	3019.4	2998.4	2985.3	2985.7	3002.2	3004.3	3009.7
11°	3092.4	3084.2	3064.3	3039.1	3012.1	2988.5	2972.7	2975.9	2990.5	2993.5	3000.7
12°	3092.1	3084.3	3062.7	3033.5	3003.6	2975.5	2959.2	2964.8	2977.7	2982.5	2992.6
13°	3091.8	3082.3	3058.7	3026.0	2992.5	2962.7	2943.6	2951.7	2963.3	2969.5	2985.2
14°	3091.5	3081.7	3055.6	3017.5	2981.0	2950.2	2926.8	2936.9	2947.7	2958.6	2977.9
15°	3091.2	3080.3	3049.8	3009.5	2967.3	2934.3	2909.5	2921.3	2930.9	2946.3	2969.0
16°	3090.9	3076.7	3044.3	2998.7	2952.9	2918.5	2891.6	2904.0	2914.5	2934.6	2958.8
17°	3089.9	3074.1	3038.2	2987.0	2935.8	2899.4	2872.3	2886.1	2896.7	2921.9	2948.5
18°	3087.9	3070.6	3031.4	2974.7	2918.1	2879.4	2851.0	2865.6	2879.5	2908.0	2938.6
19°	3085.5	3066.4	3024.0	2962.4	2898.9	2856.3	2830.0	2845.0	2860.9	2892.9	2927.3
20°	3083.1	3062.1	3016.2	2949.8	2879.4	2833.2	2806.6	2823.4	2843.3	2877.5	2916.1
21°	3078.7	3058.3	3007.9	2936.1	2861.0	2807.2	2783.8	2801.7	2824.2	2863.6	2904.3
22°	3074.0	3052.3	2999.0	2922.7	2839.8	2782.0	2759.5	2777.3	2804.3	2847.4	2891.5
23°	3069.1	3045.9	2989.9	2907.9	2818.3	2754.2	2733.0	2754.5	2782.4	2831.1	2878.1
24°	3065.4	3041.0	2980.6	2894.2	2797.0	2726.0	2706.6	2729.4	2759.5	2811.9	2863.5
25°	3060.6	3033.4	2970.7	2876.9	2774.6	2696.9	2677.5	2705.0	2735.8	2794.2	2849.8
26°	3056.0	3027.6	2960.1	2861.9	2752.5	2667.0	2647.8	2677.7	2711.9	2775.4	2834.0
27°	3051.7	3020.4	2949.7	2845.2	2728.0	2637.4	2617.1	2650.2	2687.1	2755.8	2819.5
28°	3044.6	3013.1	2937.4	2827.4	2704.8	2606.1	2586.3	2621.5	2662.3	2735.2	2801.7
29°	3037.1	3004.1	2926.0	2809.1	2679.0	2575.3	2553.2	2591.9	2637.6	2715.5	2784.4
30°	3031.1	2995.4	2913.0	2790.0	2652.8	2542.7	2520.2	2560.4	2612.2	2694.1	2764.7
31°	3027.7	2988.1	2898.7	2771.2	2625.7	2509.8	2486.8	2527.9	2585.0	2670.9	2745.1
32°	3024.6	2981.9	2883.5	2751.1	2598.6	2475.3	2453.0	2494.2	2558.8	2647.6	2723.4
33°	3022.4	2975.9	2870.6	2729.8	2569.0	2440.8	2417.7	2459.1	2530.5	2623.1	2700.0
34°	3021.5	2970.9	2857.1	2708.1	2540.5	2406.1	2381.8	2424.6	2503.6	2598.4	2673.2
35°	3019.9	2967.7	2843.9	2685.6	2510.0	2369.7	2344.4	2387.5	2473.1	2571.1	2645.6
36°	3021.4	2963.5	2831.7	2662.0	2479.4	2332.5	2305.2	2351.9	2443.6	2543.7	2615.9
37°	3024.0	2962.5	2821.8	2639.3	2447.1	2293.9	2265.5	2314.2	2411.4	2513.7	2584.0
38°	3025.2	2961.4	2810.2	2617.0	2414.5	2255.2	2224.5	2276.2	2378.0	2482.8	2550.4
39°	3026.8	2958.8	2800.1	2592.9	2382.0	2213.4	2181.7	2237.9	2343.0	2448.6	2514.9
40°	3026.1	2954.7	2791.4	2571.6	2346.3	2171.1	2138.3	2199.7	2308.3	2414.1	2479.5
41°	3027.1	2950.4	2780.1	2549.9	2310.6	2128.4	2094.4	2161.5	2273.3	2378.2	2439.1
42°	3029.7	2947.8	2767.6	2531.3	2275.6	2084.5	2048.9	2121.4	2236.7	2339.8	2399.1
43°	3032.8	2945.4	2754.3	2508.8	2240.2	2040.4	2003.4	2080.8	2198.2	2300.1	2353.0
44°	3041.3	2945.7	2742.8	2487.5	2205.0	1994.1	1957.9	2040.5	2160.6	2257.3	2305.4



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CATALOG NUMBER: TWC150_T4_60W_4000K

CANDELA DISTRIBUTION (continued):

	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°
45°	3052.5	2951.5	2729.8	2464.6	2172.3	1949.3	1909.0	1998.6	2120.0	2213.8	2252.3
46°	3061.0	2958.8	2717.3	2441.5	2140.1	1900.7	1861.6	1955.1	2078.9	2169.0	2195.5
47°	3071.9	2961.0	2709.1	2416.5	2108.6	1856.2	1813.1	1912.7	2037.1	2123.5	2134.3
48°	3078.6	2965.8	2707.9	2390.2	2078.7	1808.6	1764.0	1867.1	1992.9	2071.0	2068.8
49°	3086.0	2966.9	2700.2	2367.5	2048.6	1763.8	1712.9	1823.4	1947.2	2017.1	1998.6
50°	3088.5	2972.6	2690.4	2340.8	2019.4	1716.4	1661.5	1775.3	1900.3	1957.8	1924.6
51°	3080.7	2975.9	2679.1	2318.5	1988.8	1670.8	1610.7	1726.9	1850.7	1896.1	1846.8
52°	3061.0	2964.3	2665.6	2297.5	1959.6	1625.3	1557.7	1675.7	1799.0	1829.4	1756.6
53°	3042.2	2940.5	2653.9	2274.9	1924.9	1580.2	1504.5	1623.8	1746.3	1759.7	1646.2
54°	3041.0	2921.0	2634.0	2245.7	1886.2	1535.7	1450.5	1570.5	1692.1	1686.2	1506.6
55°	3051.1	2921.7	2605.5	2217.5	1844.8	1488.1	1396.2	1515.6	1634.2	1608.7	1330.8
56°	3058.8	2926.8	2578.1	2185.8	1799.8	1441.8	1342.9	1463.2	1572.9	1525.9	1131.4
57°	3075.8	2930.8	2567.6	2155.4	1753.3	1391.4	1288.5	1408.3	1507.2	1438.3	940.5
58°	3121.8	2944.2	2566.5	2119.9	1708.3	1339.2	1235.9	1353.3	1437.7	1330.2	749.6
59°	3194.4	2992.0	2561.7	2066.6	1663.7	1281.1	1184.1	1292.1	1363.6	1199.3	560.3
60°	3275.3	3062.7	2556.5	2013.2	1614.5	1219.9	1134.0	1234.0	1292.3	1024.9	448.0
61°	3329.2	3143.1	2571.3	1968.7	1563.8	1154.9	1084.5	1170.0	1217.5	850.6	368.1
62°	3321.7	3184.7	2622.8	1936.9	1506.6	1090.4	1035.4	1105.2	1142.8	676.3	324.2
63°	3259.0	3160.5	2698.3	1908.1	1447.1	1024.1	986.6	1040.5	1062.8	514.5	302.6
64°	3132.4	3076.3	2764.6	1883.2	1381.9	958.1	935.9	974.0	979.7	395.0	289.8
65°	2962.6	2922.7	2761.4	1872.3	1306.4	893.4	883.3	911.6	883.2	318.3	278.3
66°	2783.7	2733.4	2674.1	1890.0	1220.0	827.8	830.7	849.7	786.7	276.7	267.1
67°	2561.6	2546.3	2499.9	1967.6	1135.5	769.2	777.8	787.7	689.4	257.6	255.1
68°	2312.2	2289.0	2271.1	2080.9	1059.8	709.8	715.5	722.2	549.0	244.7	242.7
69°	2135.9	2082.0	2032.8	2106.0	993.0	655.2	652.8	664.6	408.1	232.4	230.3
70°	2046.7	1955.9	1792.2	1962.6	928.3	600.4	588.0	606.8	302.8	219.5	218.1
71°	1969.1	1888.9	1623.7	1655.6	872.3	551.1	525.1	552.5	243.2	206.1	206.3
72°	1893.3	1816.1	1533.6	1348.9	847.5	503.4	464.2	495.6	213.7	192.9	195.3
73°	1811.1	1742.2	1460.0	1143.4	938.4	456.4	406.0	437.3	197.1	179.8	185.9
74°	1726.6	1666.6	1381.5	1059.9	1182.7	411.1	352.8	380.1	182.4	167.5	175.5
75°	1621.1	1585.5	1295.1	984.2	1039.4	363.0	302.7	320.3	167.1	156.0	162.1
76°	1507.7	1493.0	1213.2	922.6	657.8	314.9	259.6	266.6	153.4	145.2	148.5
77°	1378.7	1397.3	1120.3	864.1	467.8	266.7	218.6	211.0	139.9	134.6	134.2
78°	1230.8	1290.1	1031.7	766.4	400.5	242.3	182.6	168.6	127.4	121.8	119.7
79°	1081.3	1163.1	962.0	616.7	433.4	213.3	150.3	142.0	114.9	108.2	107.2
80°	923.9	1029.7	884.2	518.5	459.4	183.8	123.2	124.3	103.5	94.6	94.6
81°	774.0	883.6	795.2	465.7	362.3	167.8	100.5	108.4	92.2	80.9	82.1
82°	642.0	741.6	695.3	421.7	264.8	146.7	77.7	92.5	80.8	65.5	74.7
83°	535.3	630.6	552.5	358.0	167.3	130.9	60.2	76.7	67.8	52.3	65.5
84°	381.6	485.9	453.4	293.7	140.5	105.5	45.0	61.7	54.7	44.8	54.8
85°	274.4	357.3	349.4	229.4	120.2	67.3	32.8	48.2	42.1	37.2	43.2
86°	167.6	229.3	245.3	99.0	98.4	44.2	22.5	35.6	29.9	27.7	30.6
87°	70.2	101.2	141.3	39.0	68.6	35.4	15.7	23.8	21.6	19.5	21.7
88°	35.0	50.3	71.4	28.3	21.7	26.7	8.8	16.0	14.6	11.4	12.8
89°	1.1	1.0	1.7	19.0	16.3	17.9	2.1	8.1	7.7	3.4	4.1



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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



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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



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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: P1449882

CATALOG NUMBER: TWC150_T4_60W_4000K

CANDELA DISTRIBUTION (continued):

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
0°	3052.1	3052.1	3052.1	3052.1	3052.1	3052.1	3052.1	3052.1	3052.1	3052.1	3052.1
1°	3048.0	3048.2	3048.8	3049.5	3048.1	3048.7	3050.3	3053.6	3054.5	3056.0	3056.9
2°	3045.3	3046.2	3045.7	3046.0	3045.6	3046.0	3047.6	3053.3	3053.7	3057.2	3059.2
3°	3044.2	3045.8	3045.0	3044.1	3042.8	3042.8	3044.8	3051.3	3053.3	3058.1	3061.4
4°	3048.1	3050.0	3048.3	3045.1	3041.0	3038.7	3040.0	3046.8	3051.6	3056.5	3062.5
5°	3049.7	3051.4	3050.3	3047.1	3041.1	3035.0	3035.1	3043.2	3048.3	3056.7	3063.7
6°	3046.3	3047.0	3047.6	3046.4	3041.2	3030.5	3028.1	3037.1	3044.3	3054.7	3063.6
7°	3039.2	3040.2	3040.9	3041.5	3037.8	3027.9	3021.8	3029.8	3038.9	3051.9	3062.7
8°	3030.1	3032.4	3032.6	3032.9	3032.0	3025.1	3013.6	3021.1	3033.1	3048.3	3062.4
9°	3023.6	3025.7	3026.8	3024.0	3024.0	3020.3	3004.5	3012.7	3026.3	3043.7	3059.9
10°	3016.0	3018.9	3019.0	3015.6	3013.4	3012.7	2995.7	3002.6	3017.4	3038.3	3055.9
11°	3010.3	3014.3	3012.6	3007.2	3002.5	3001.9	2985.5	2990.7	3008.6	3030.9	3052.4
12°	3004.3	3010.7	3007.7	2999.7	2991.9	2990.6	2976.3	2978.7	2999.0	3021.6	3047.9
13°	2999.9	3005.6	3001.3	2991.6	2980.0	2976.5	2964.6	2965.8	2987.3	3011.7	3043.5
14°	2992.6	2998.3	2995.2	2984.8	2969.7	2961.5	2952.1	2951.6	2974.3	3001.4	3035.9
15°	2985.6	2992.4	2988.8	2977.1	2957.7	2946.4	2938.0	2935.2	2960.3	2989.0	3026.9
16°	2976.7	2984.8	2980.4	2966.7	2947.0	2929.9	2922.8	2918.7	2943.8	2975.6	3015.5
17°	2966.8	2976.2	2971.8	2957.3	2935.1	2913.2	2906.1	2899.8	2925.7	2959.2	3004.7
18°	2959.0	2969.4	2964.0	2947.5	2921.7	2895.6	2887.1	2881.7	2906.0	2941.5	2994.5
19°	2950.4	2961.5	2955.8	2936.4	2907.8	2880.3	2868.0	2860.4	2884.3	2923.4	2982.1
20°	2940.7	2951.9	2945.9	2925.6	2893.1	2862.2	2846.2	2838.1	2860.4	2906.5	2972.1
21°	2931.1	2943.3	2935.1	2914.8	2878.0	2844.0	2825.4	2815.3	2835.8	2888.5	2960.5
22°	2919.3	2935.1	2925.3	2901.4	2863.0	2824.7	2803.0	2790.8	2811.8	2869.8	2947.4
23°	2910.1	2924.8	2916.0	2888.0	2847.2	2804.5	2780.2	2763.5	2785.7	2849.6	2934.0
24°	2900.5	2914.9	2905.7	2873.2	2830.6	2782.4	2756.6	2738.2	2759.1	2829.4	2920.0
25°	2887.8	2903.7	2894.2	2859.1	2812.6	2760.3	2732.5	2709.1	2731.7	2808.2	2906.4
26°	2875.5	2891.2	2881.3	2845.1	2794.5	2734.6	2706.2	2679.9	2702.8	2786.1	2891.3
27°	2861.7	2876.3	2867.1	2830.7	2775.2	2711.3	2679.0	2649.7	2674.8	2764.7	2875.5
28°	2844.9	2861.8	2851.5	2814.8	2755.6	2686.9	2650.5	2620.0	2646.5	2740.9	2858.8
29°	2827.8	2844.9	2834.5	2797.9	2734.2	2661.4	2620.7	2587.8	2614.2	2717.2	2840.6
30°	2809.8	2825.1	2816.8	2780.3	2713.4	2636.6	2590.5	2556.6	2582.7	2691.4	2823.4
31°	2788.1	2803.1	2795.5	2759.2	2691.7	2610.3	2558.1	2523.1	2551.1	2666.4	2805.5
32°	2765.3	2778.5	2772.0	2738.2	2668.4	2584.6	2525.7	2490.5	2518.5	2640.0	2788.6
33°	2738.8	2754.0	2746.8	2713.2	2643.6	2557.0	2489.9	2455.7	2484.9	2613.5	2767.5
34°	2712.2	2726.3	2719.9	2689.1	2619.0	2528.3	2456.5	2420.9	2452.0	2584.7	2748.2
35°	2683.0	2697.4	2691.6	2660.6	2593.5	2498.2	2418.3	2383.4	2416.3	2555.6	2725.6
36°	2653.0	2666.7	2660.6	2632.4	2565.7	2468.0	2382.6	2346.6	2379.4	2526.7	2703.7
37°	2619.7	2634.9	2629.2	2599.7	2537.0	2436.0	2344.5	2306.5	2343.8	2495.0	2680.9
38°	2586.6	2600.4	2596.2	2567.2	2507.6	2403.6	2308.2	2267.8	2303.8	2465.2	2660.7
39°	2549.6	2562.2	2560.1	2531.2	2474.7	2369.5	2269.6	2225.4	2264.9	2431.8	2639.1
40°	2512.3	2522.0	2522.2	2496.7	2440.1	2335.2	2232.7	2182.9	2222.1	2398.7	2617.2
41°	2467.7	2474.5	2479.3	2459.7	2403.8	2300.9	2193.4	2139.2	2182.8	2363.0	2595.9
42°	2418.1	2424.2	2431.9	2419.7	2366.6	2265.0	2153.3	2096.1	2138.3	2328.5	2576.2
43°	2365.9	2366.3	2378.4	2377.3	2326.9	2227.8	2113.0	2049.9	2094.7	2293.8	2557.2
44°	2307.6	2306.9	2324.6	2329.9	2286.6	2190.4	2071.7	2004.6	2049.5	2260.5	2535.7



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 CATALOG NUMBER: TWC150_T4_60W_4000K

CANDELA DISTRIBUTION (continued):

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
45°	2246.1	2241.3	2262.3	2279.0	2244.6	2150.8	2031.3	1957.3	2005.3	2229.9	2517.2
46°	2178.3	2171.9	2197.2	2223.9	2201.0	2111.3	1988.0	1908.3	1958.7	2195.9	2492.8
47°	2107.8	2096.6	2127.1	2165.6	2156.2	2070.3	1945.6	1859.9	1912.7	2166.6	2469.2
48°	2031.6	2014.4	2052.6	2101.7	2108.5	2027.2	1900.7	1809.1	1865.7	2134.5	2443.9
49°	1946.0	1907.0	1969.2	2033.7	2056.0	1982.3	1854.7	1760.9	1818.5	2107.8	2423.6
50°	1836.4	1776.0	1868.4	1963.5	2000.0	1937.1	1808.0	1708.4	1771.7	2078.1	2397.9
51°	1699.5	1603.8	1737.9	1886.1	1940.4	1888.9	1759.0	1657.3	1724.9	2051.4	2374.7
52°	1520.2	1398.6	1569.5	1803.2	1876.9	1840.0	1710.0	1603.5	1680.2	2018.8	2354.4
53°	1318.9	1178.4	1372.1	1706.1	1810.6	1786.7	1658.8	1551.6	1633.4	1985.2	2331.5
54°	1111.5	985.5	1150.0	1582.0	1740.6	1734.0	1609.0	1498.0	1590.5	1948.9	2306.7
55°	904.1	792.6	960.9	1422.1	1665.3	1677.2	1554.7	1442.8	1543.6	1909.5	2276.7
56°	697.9	601.4	771.8	1234.6	1587.1	1618.6	1501.1	1388.8	1498.1	1866.3	2248.8
57°	551.3	489.3	583.7	1034.5	1504.4	1555.2	1445.0	1331.8	1448.4	1818.6	2218.9
58°	452.7	414.2	474.5	834.4	1414.4	1487.9	1388.8	1278.8	1396.4	1775.7	2186.2
59°	386.4	367.6	401.1	636.1	1306.9	1418.8	1329.6	1224.3	1340.1	1729.4	2137.6
60°	349.0	345.1	357.2	499.3	1172.6	1349.8	1270.1	1175.0	1278.0	1682.6	2086.1
61°	331.7	333.7	335.2	404.6	993.4	1277.0	1207.7	1124.0	1216.0	1630.9	2038.1
62°	320.2	323.4	323.4	344.4	814.2	1203.4	1144.3	1074.9	1147.8	1577.0	2005.7
63°	310.0	314.2	312.7	312.5	635.8	1128.7	1081.7	1025.2	1083.1	1519.4	1979.2
64°	299.9	304.2	302.8	295.8	483.0	1053.1	1016.5	975.9	1013.2	1457.9	1954.1
65°	289.1	293.1	292.3	284.0	374.3	975.6	953.4	923.2	948.5	1388.4	1940.9
66°	277.7	282.8	280.4	272.8	309.1	883.4	891.0	866.8	880.8	1302.0	1955.0
67°	267.4	273.5	269.7	260.8	273.2	791.2	828.5	808.0	820.3	1215.8	2023.0
68°	257.0	264.0	259.6	248.4	254.8	699.1	766.0	744.3	760.5	1134.8	2142.1
69°	246.8	254.3	248.9	235.4	241.8	559.0	706.4	682.3	702.0	1068.8	2197.0
70°	236.7	246.4	239.1	222.9	228.9	414.0	650.1	618.7	646.4	1000.5	2094.5
71°	228.6	238.0	230.5	210.8	215.8	304.9	595.7	555.1	592.7	941.2	1816.7
72°	218.9	226.3	221.7	199.5	203.1	242.8	541.5	492.4	542.3	904.6	1497.6
73°	205.6	212.6	209.0	189.2	189.7	211.1	486.2	433.5	494.1	943.2	1251.2
74°	191.3	197.5	195.5	180.2	176.9	193.7	432.2	382.1	449.6	1184.7	1114.8
75°	176.1	181.9	180.1	167.7	163.7	178.3	375.0	330.8	400.4	1228.1	1038.6
76°	161.0	166.3	164.6	154.3	152.5	163.5	319.1	279.6	355.1	837.2	981.7
77°	144.8	150.5	147.7	139.5	140.7	149.3	263.7	237.6	309.9	521.7	913.6
78°	130.8	139.0	132.3	125.3	129.7	136.2	212.4	198.5	264.7	439.7	833.6
79°	120.9	129.3	121.5	111.1	115.9	123.1	169.4	164.9	239.3	404.7	679.2
80°	112.5	120.3	112.3	96.9	101.9	110.5	140.3	135.2	209.8	508.9	567.2
81°	100.0	106.1	100.7	82.8	88.0	98.8	121.2	109.1	184.8	379.0	502.0
82°	87.6	91.8	89.0	75.0	74.0	87.1	104.7	87.2	166.7	280.0	454.8
83°	75.1	77.6	77.3	67.2	57.2	75.4	88.2	67.2	149.8	181.6	411.0
84°	60.3	62.0	62.4	56.9	46.8	61.9	71.8	51.1	133.2	150.6	317.0
85°	43.9	45.3	47.2	46.5	39.4	48.9	57.0	39.6	92.6	130.1	221.7
86°	32.5	34.2	34.5	33.7	31.0	36.2	42.6	28.2	51.0	108.7	126.4
87°	23.1	24.2	24.5	22.9	21.5	25.7	30.4	16.8	35.5	75.3	53.0
88°	13.7	14.3	14.6	15.8	14.9	17.5	20.5	8.9	20.1	42.4	26.6
89°	4.3	4.5	4.8	8.8	8.3	9.3	10.7	3.3	4.7	31.9	0.7



REPORT NUMBER: P1449882
 CATALOG NUMBER: TWC150_T4_60W_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: P1449882
 CATALOG NUMBER: TWC150_T4_60W_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: P1449882
CATALOG NUMBER: TWC150_T4_60W_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: P1449882
CATALOG NUMBER: TWC150_T4_60W_4000K

CANDELA DISTRIBUTION (continued):

	330°	345°	360°
0°	3052.1	3052.1	3052.1
1°	3056.7	3057.4	3057.7
2°	3060.7	3061.5	3061.8
3°	3064.2	3064.9	3065.3
4°	3066.1	3068.5	3068.6
5°	3067.3	3071.1	3071.4
6°	3069.6	3074.8	3075.6
7°	3071.8	3076.8	3078.9
8°	3073.1	3080.2	3083.4
9°	3074.0	3082.9	3087.5
10°	3074.1	3086.3	3091.2
11°	3074.4	3088.1	3092.4
12°	3072.7	3087.8	3092.1
13°	3069.8	3087.2	3091.8
14°	3066.2	3087.2	3091.5
15°	3061.1	3085.4	3091.2
16°	3054.7	3081.8	3090.9
17°	3050.3	3080.3	3089.9
18°	3043.2	3077.1	3087.9
19°	3038.2	3074.6	3085.5
20°	3032.1	3071.0	3083.1
21°	3025.5	3066.6	3078.7
22°	3016.5	3061.6	3074.0
23°	3007.9	3055.3	3069.1
24°	2998.8	3049.9	3065.4
25°	2988.7	3044.5	3060.6
26°	2979.9	3038.0	3056.0
27°	2968.6	3030.8	3051.7
28°	2959.2	3025.8	3044.6
29°	2947.2	3016.5	3037.1
30°	2936.0	3008.4	3031.1
31°	2923.0	3000.7	3027.7
32°	2909.0	2995.5	3024.6
33°	2896.4	2990.4	3022.4
34°	2884.4	2987.3	3021.5
35°	2872.0	2981.9	3019.9
36°	2860.6	2980.2	3021.4
37°	2850.6	2979.0	3024.0
38°	2840.2	2978.1	3025.2
39°	2833.5	2977.6	3026.8
40°	2823.9	2974.3	3026.1
41°	2815.0	2970.2	3027.1
42°	2802.8	2968.3	3029.7
43°	2791.4	2967.4	3032.8
44°	2779.6	2967.2	3041.3



REPORT NUMBER: P1449882
 CATALOG NUMBER: TWC150_T4_60W_4000K

CANDELA DISTRIBUTION (continued):

	330°	345°	360°
45°	2769.1	2973.5	3052.5
46°	2756.6	2979.6	3061.0
47°	2751.2	2984.4	3071.9
48°	2748.7	2989.6	3078.6
49°	2741.6	2993.6	3086.0
50°	2733.5	2998.1	3088.5
51°	2722.9	2998.6	3080.7
52°	2713.3	2987.8	3061.0
53°	2702.8	2963.4	3042.2
54°	2687.3	2946.0	3041.0
55°	2659.9	2944.6	3051.1
56°	2629.8	2953.0	3058.8
57°	2613.6	2956.6	3075.8
58°	2611.1	2970.4	3121.8
59°	2607.0	3015.5	3194.4
60°	2604.1	3084.7	3275.3
61°	2618.0	3164.9	3329.2
62°	2665.7	3209.9	3321.7
63°	2741.7	3189.5	3259.0
64°	2816.3	3109.8	3132.4
65°	2820.9	2966.8	2962.6
66°	2749.6	2777.2	2783.7
67°	2592.6	2587.7	2561.6
68°	2374.3	2333.9	2312.2
69°	2132.2	2109.9	2135.9
70°	1888.6	1974.8	2046.7
71°	1691.7	1902.7	1969.1
72°	1584.5	1834.3	1893.3
73°	1506.8	1754.2	1811.1
74°	1430.4	1681.1	1726.6
75°	1342.4	1594.3	1621.1
76°	1254.2	1503.5	1507.7
77°	1157.7	1404.5	1378.7
78°	1066.2	1303.2	1230.8
79°	991.5	1176.8	1081.3
80°	918.8	1042.3	923.9
81°	834.4	892.9	774.0
82°	733.5	748.1	642.0
83°	600.6	644.7	535.3
84°	478.5	506.9	381.6
85°	375.8	377.3	274.4
86°	274.3	247.9	167.6
87°	172.8	118.5	70.2
88°	13.9	59.1	35.0
89°	7.2	0.9	1.1



REPORT NUMBER: P1449882
CATALOG NUMBER: TWC150_T4_60W_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: P1449882
CATALOG NUMBER: TWC150_T4_60W_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: P1449882
CATALOG NUMBER: TWC150_T4_60W_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

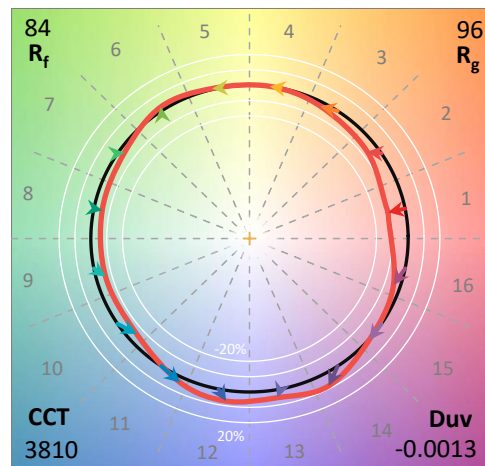
Test Information

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		



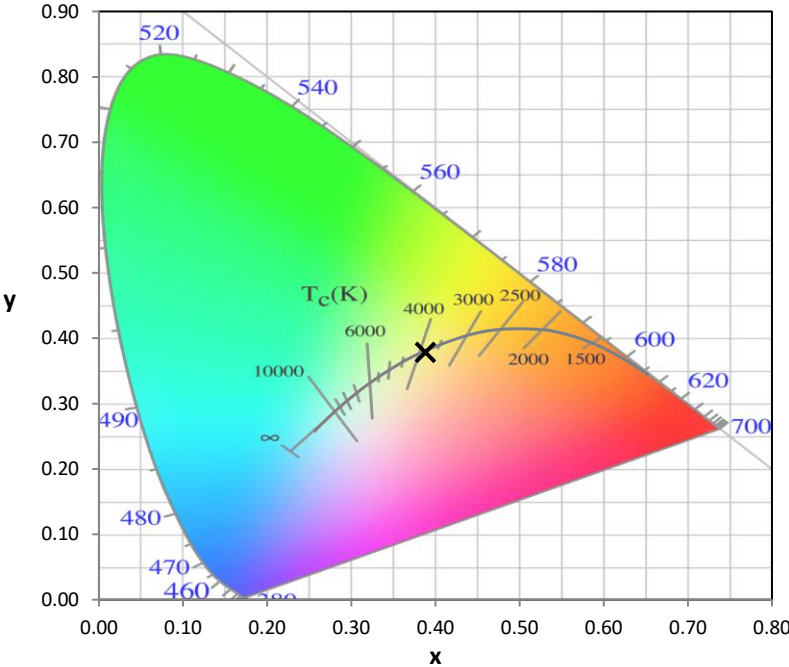
Test Conditions
 Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.8

REPORT NUMBER: SP1-2601-659-2

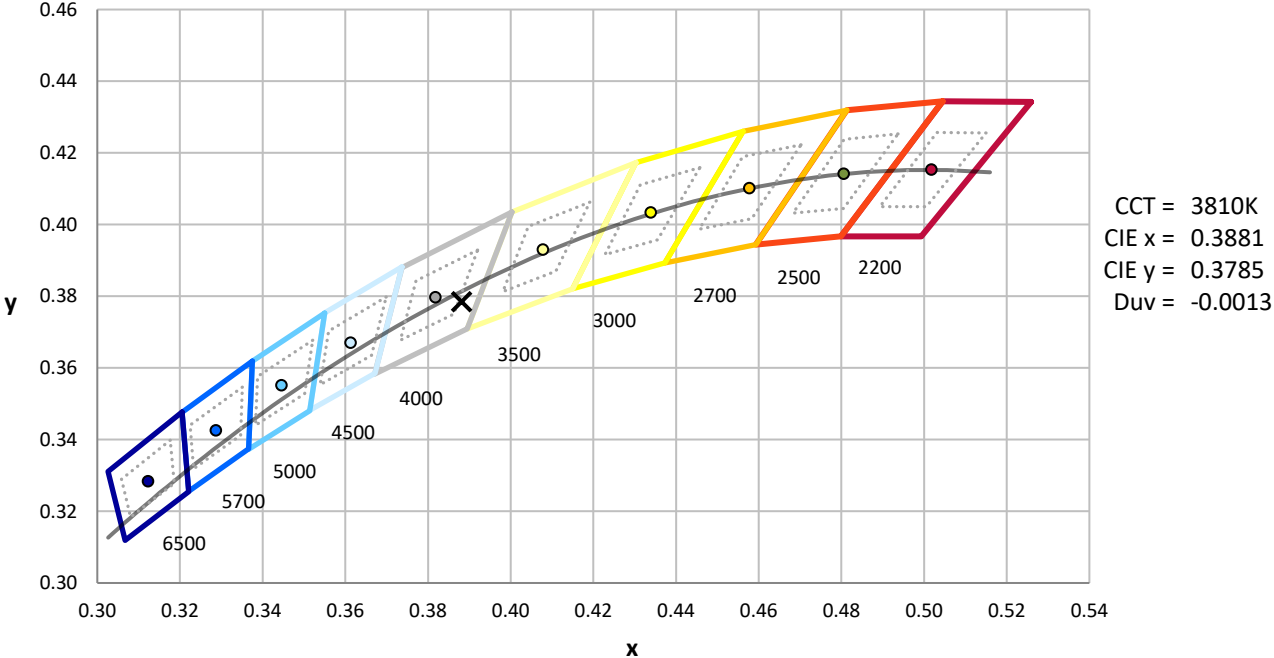
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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



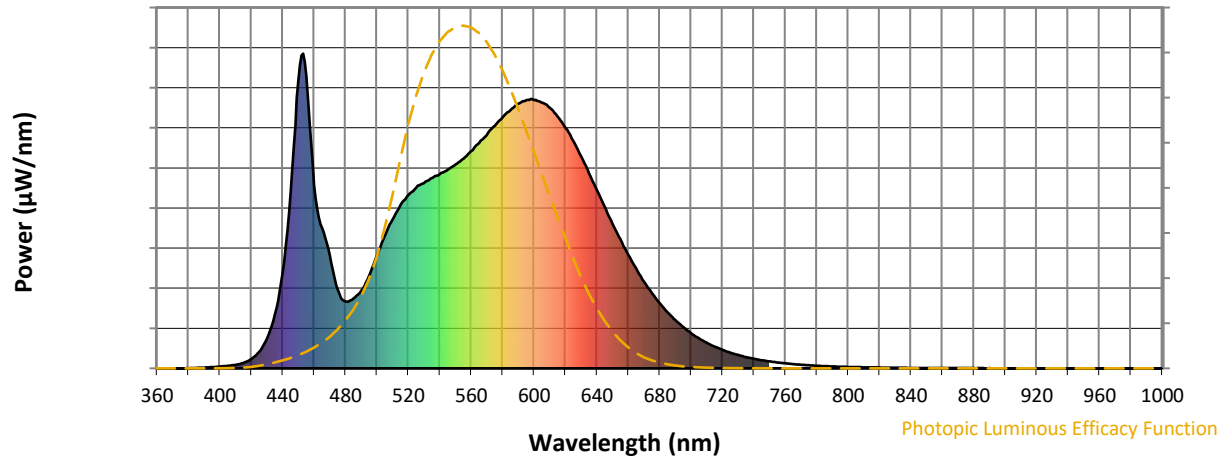
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 4000K 7-step quadrangle

REPORT NUMBER: SP1-2601-659-2

Photopic Flux vs. Wavelength

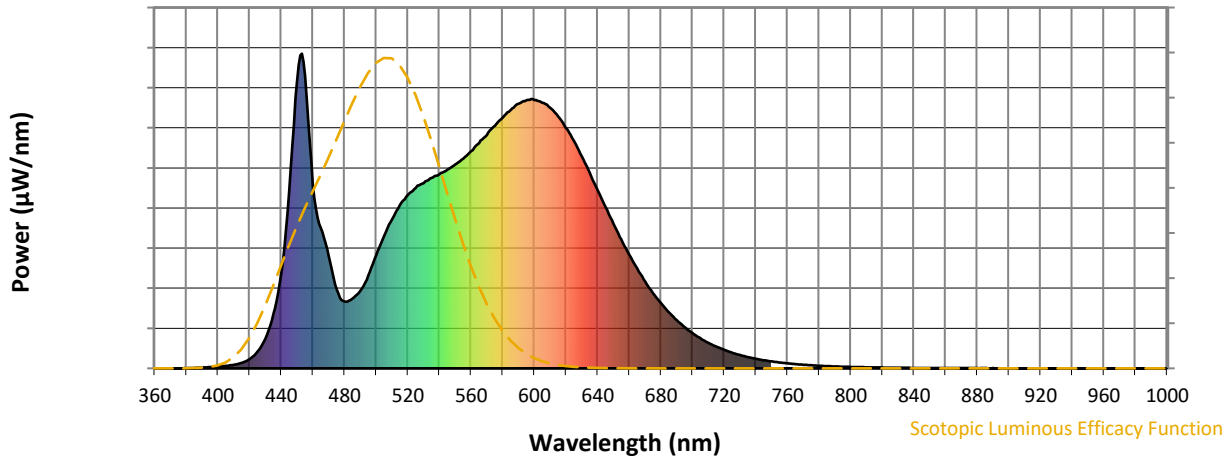


Photopic Lumens: NR

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



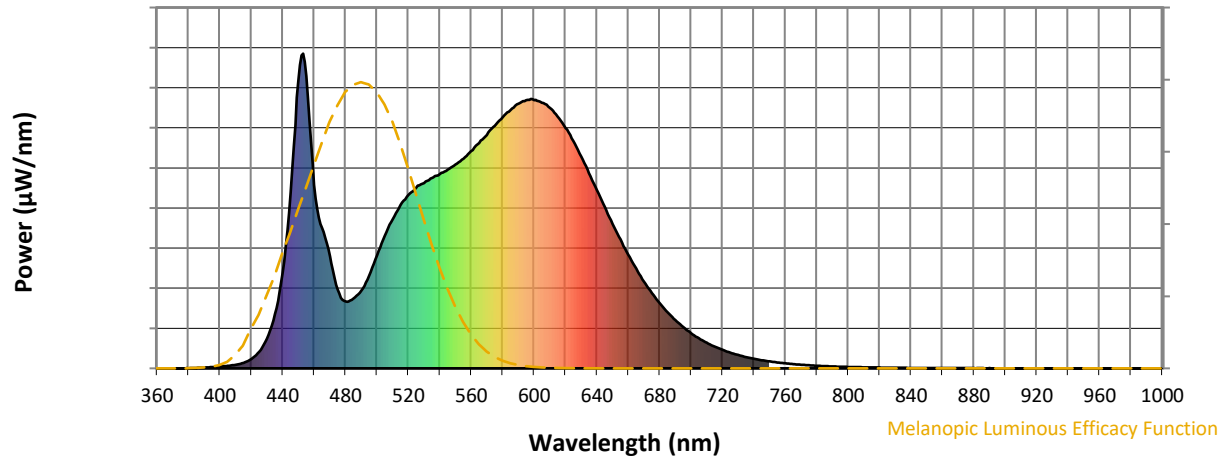
Scotopic Lumens: NR

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



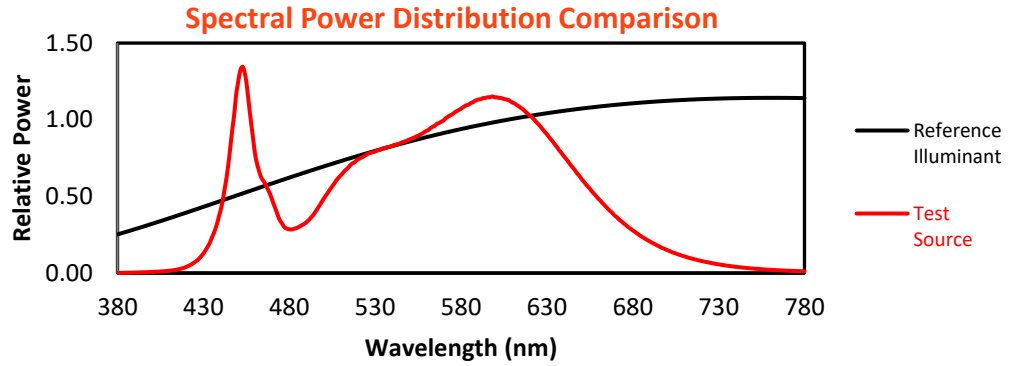
Melanopic Lumens: NR

M/P: 3.35

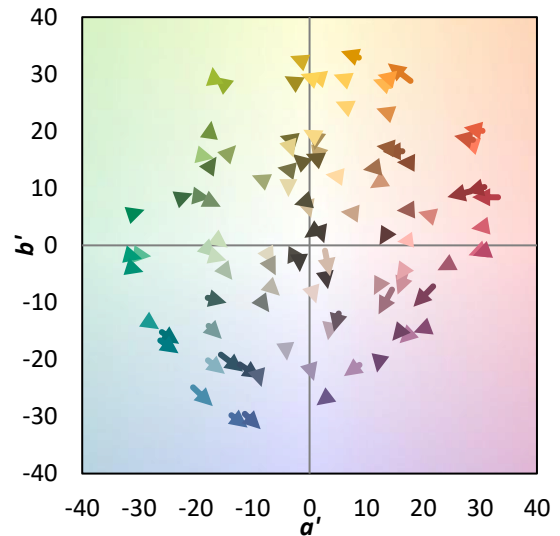
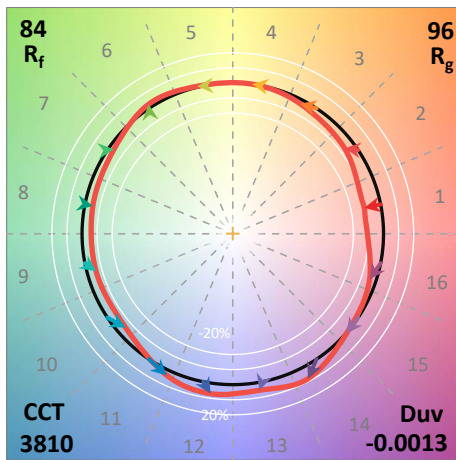
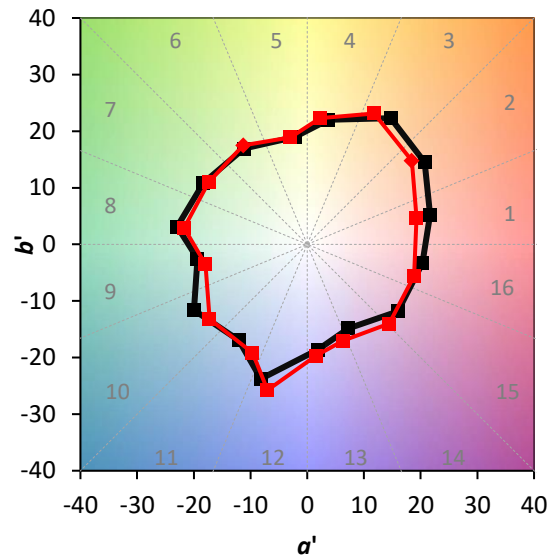
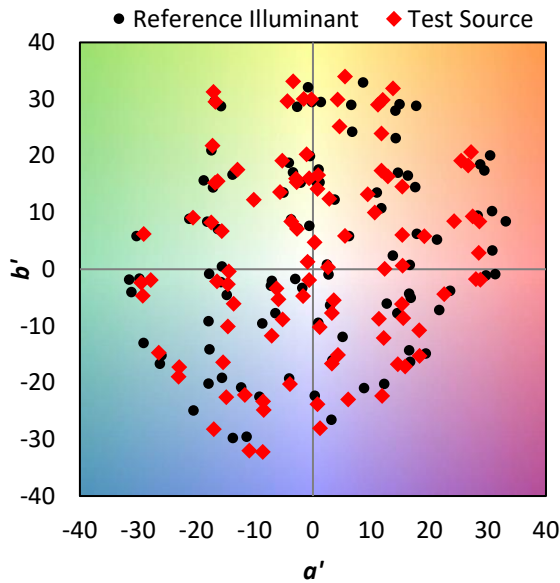
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	247	NR	620	764	NR	750	22	NR	880	1	NR
365	0	NR	495	294	NR	625	723	NR	755	19	NR	885	1	NR
370	0	NR	500	359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

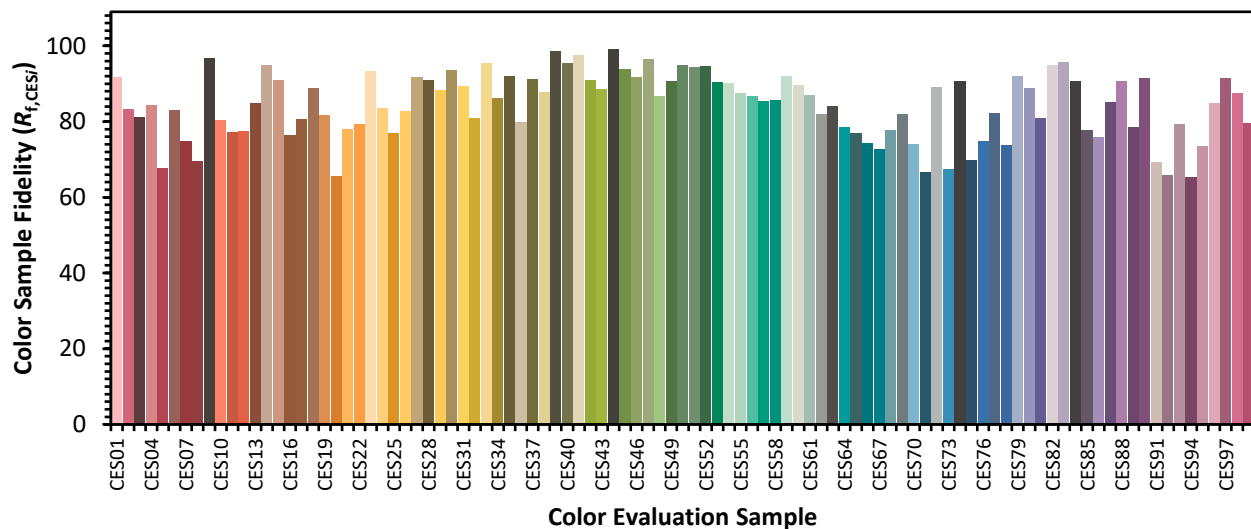


Color Vector Graphics

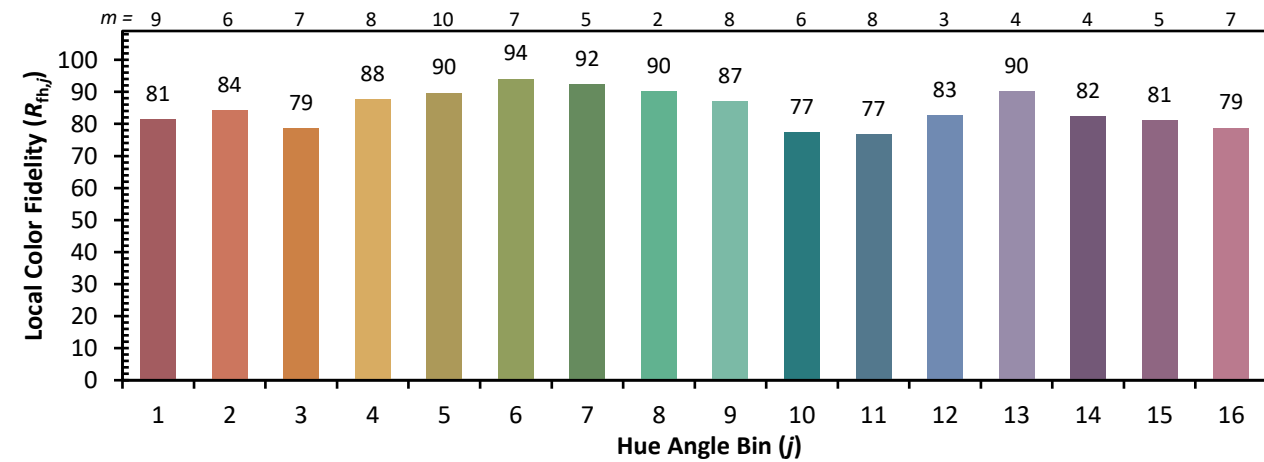
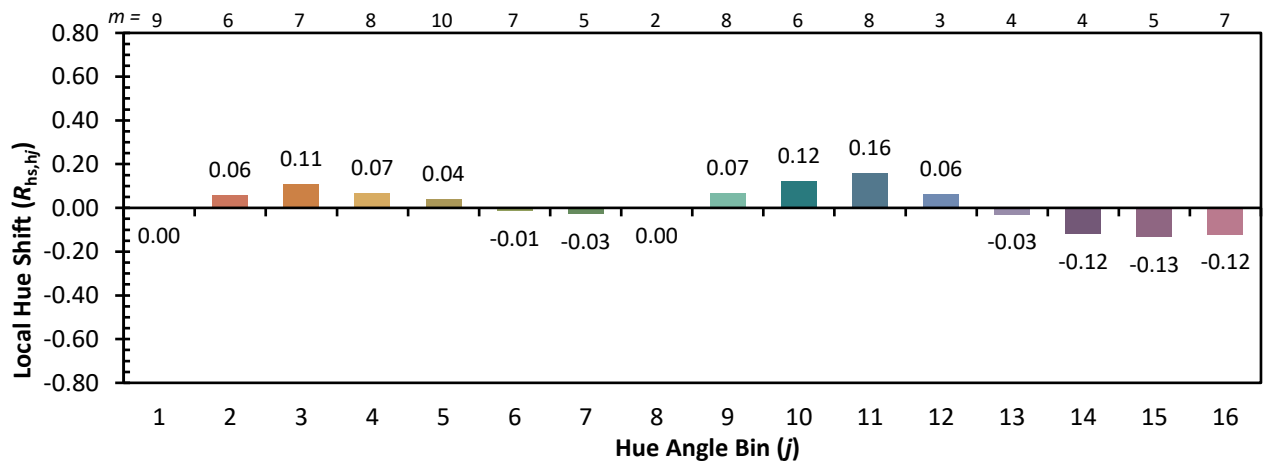
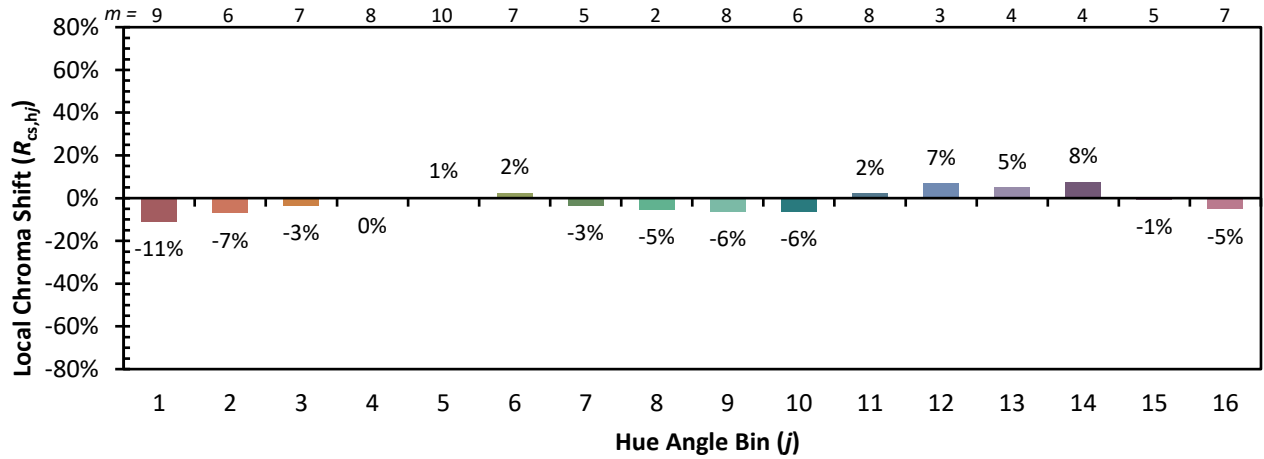


Individual Sample Fidelity Index ($R_{f,i}$)

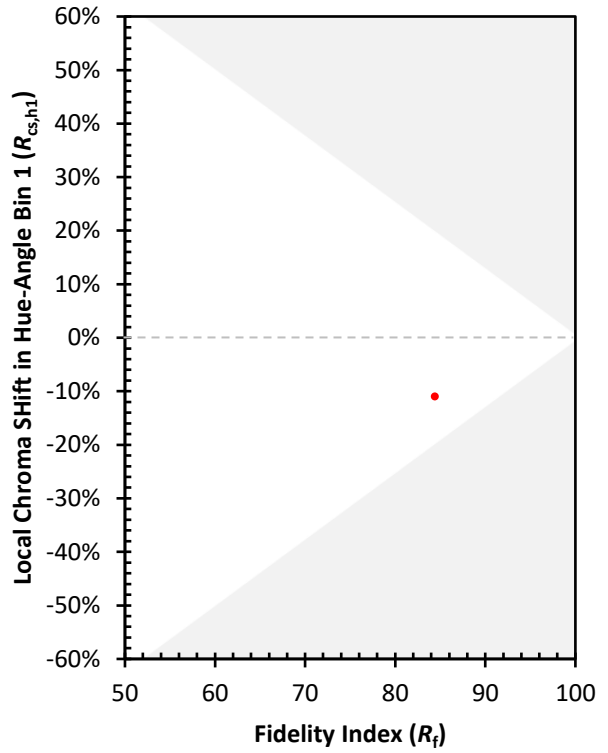
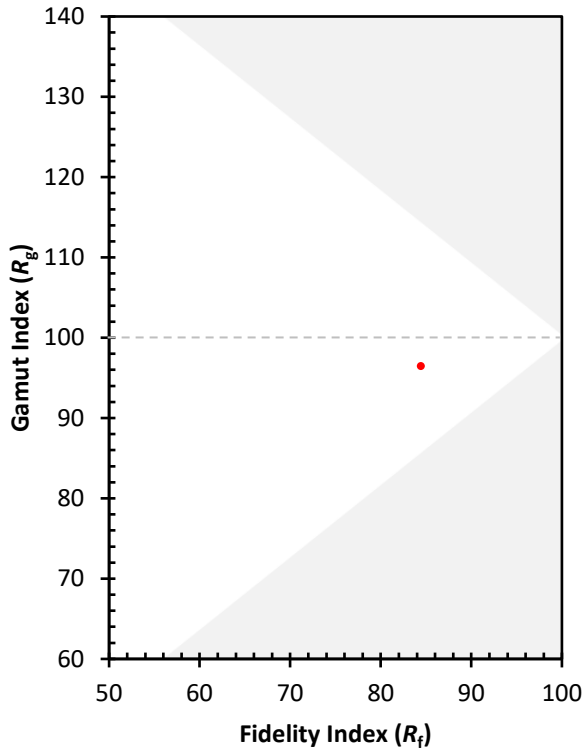
CES01 = 86	CES26 = 83	CES51 = 94	CES76 = 75
CES02 = 62	CES27 = 92	CES52 = 95	CES77 = 82
CES03 = 31	CES28 = 91	CES53 = 90	CES78 = 74
CES04 = 70	CES29 = 88	CES54 = 90	CES79 = 92
CES05 = 48	CES30 = 94	CES55 = 88	CES80 = 89
CES06 = 51	CES31 = 89	CES56 = 87	CES81 = 81
CES07 = 41	CES32 = 81	CES57 = 86	CES82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