

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: P1449883

Luminaire Tested: **TWC150_T4_60W_5000K**

Issue Date: 5/19/2026

Test Information

Test Method: LM-79-08
Report Number: P1449883
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_5000K
Description: Tapered Wall Cutoff Wall Mount Luminaire at, T4 distribution, 60W
5000K settings
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9515 lumens
Efficiency: N/A
Efficacy: 163.2 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

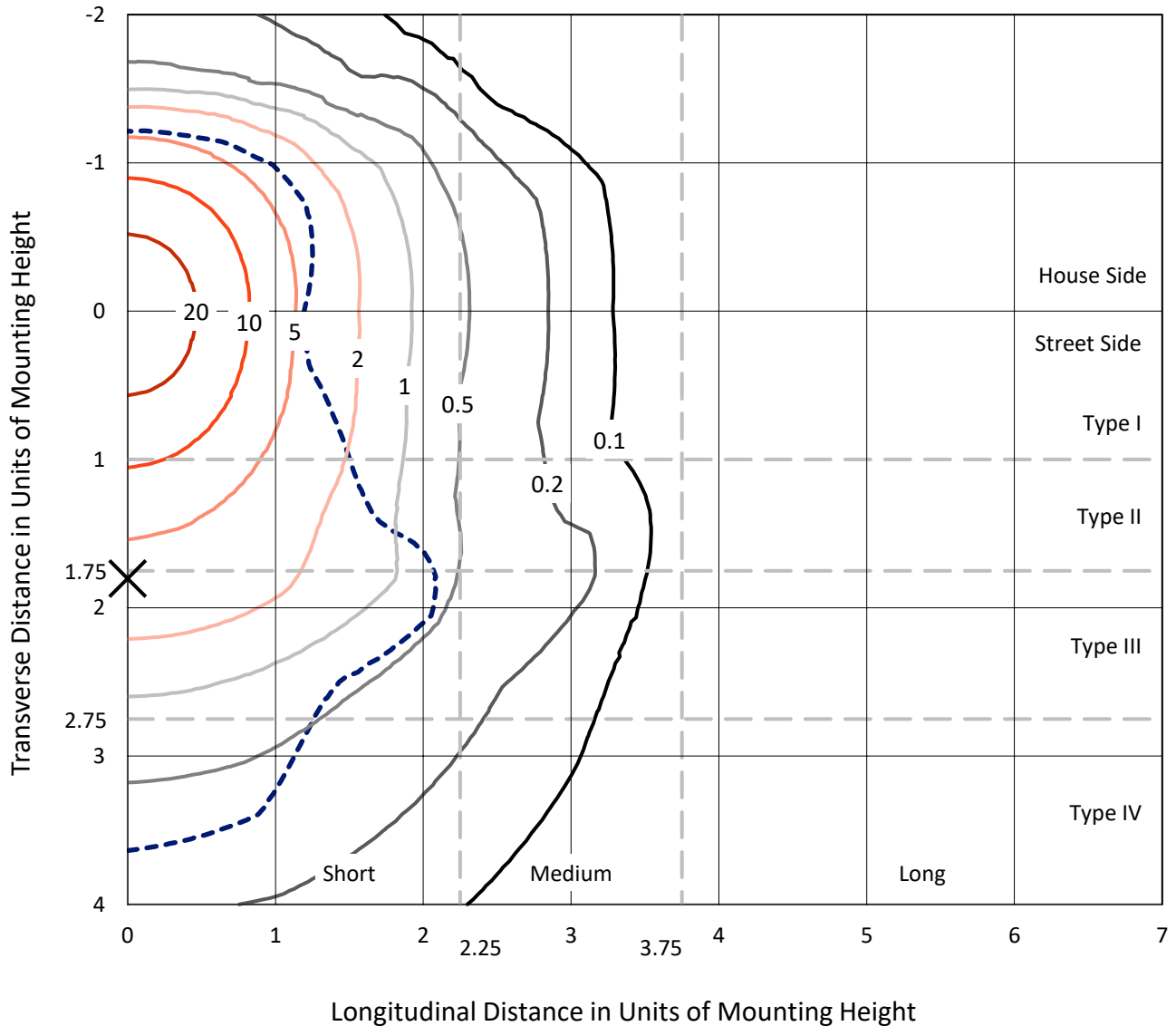
Input Watts (W): 58.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P1449883
 CATALOG NUMBER: TWC150_T4_60W_5000K

Iso-Footcandle Lines of Horizontal Illumination

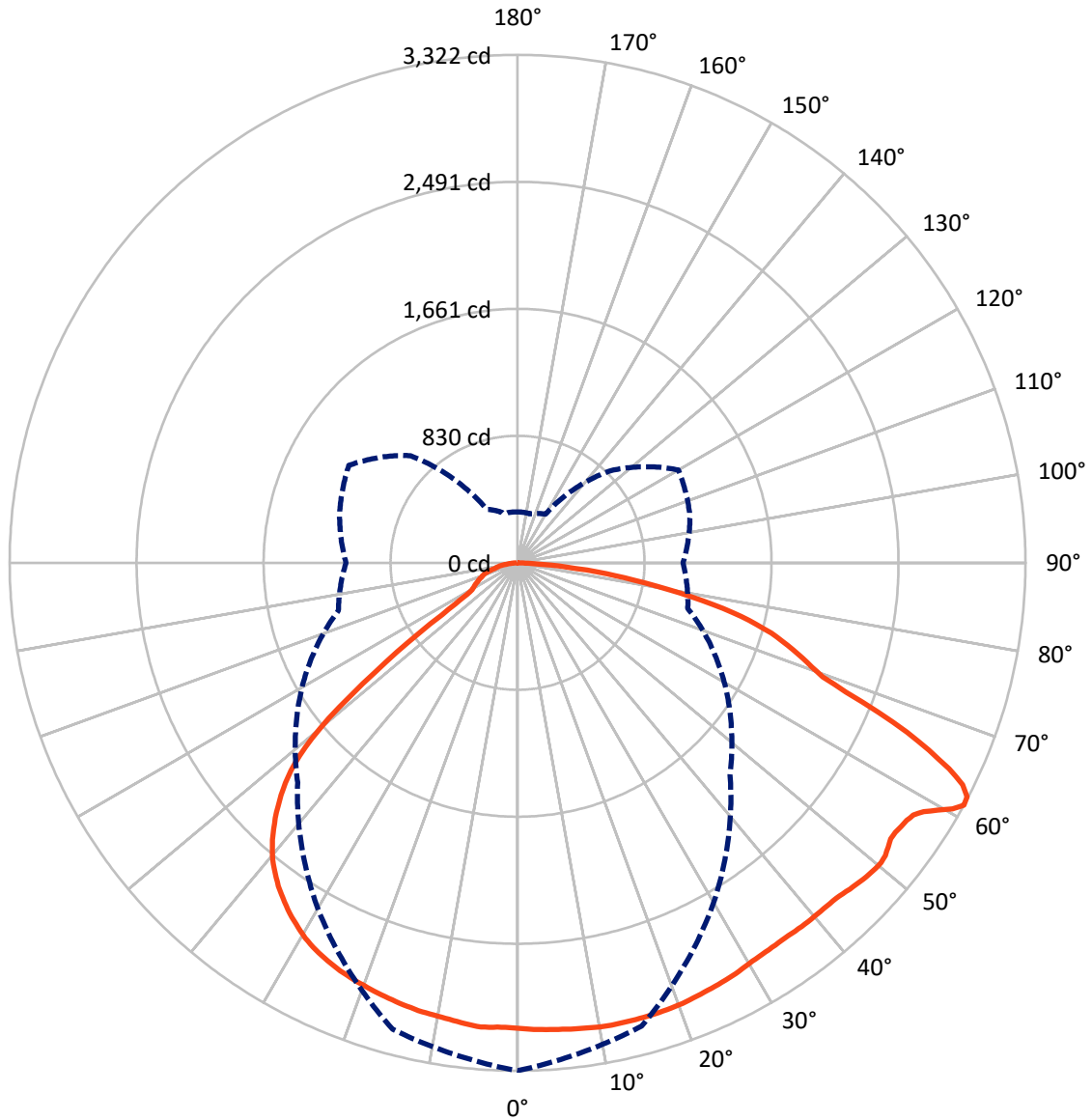
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 30.5 fc
 Type IV - Short - N/A

REPORT NUMBER: P1449883
CATALOG NUMBER: TWC150_T4_60W_5000K

Luminous Intensity Polar Plot



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

REPORT NUMBER: P1449883
 CATALOG NUMBER: TWC150_T4_60W_5000K

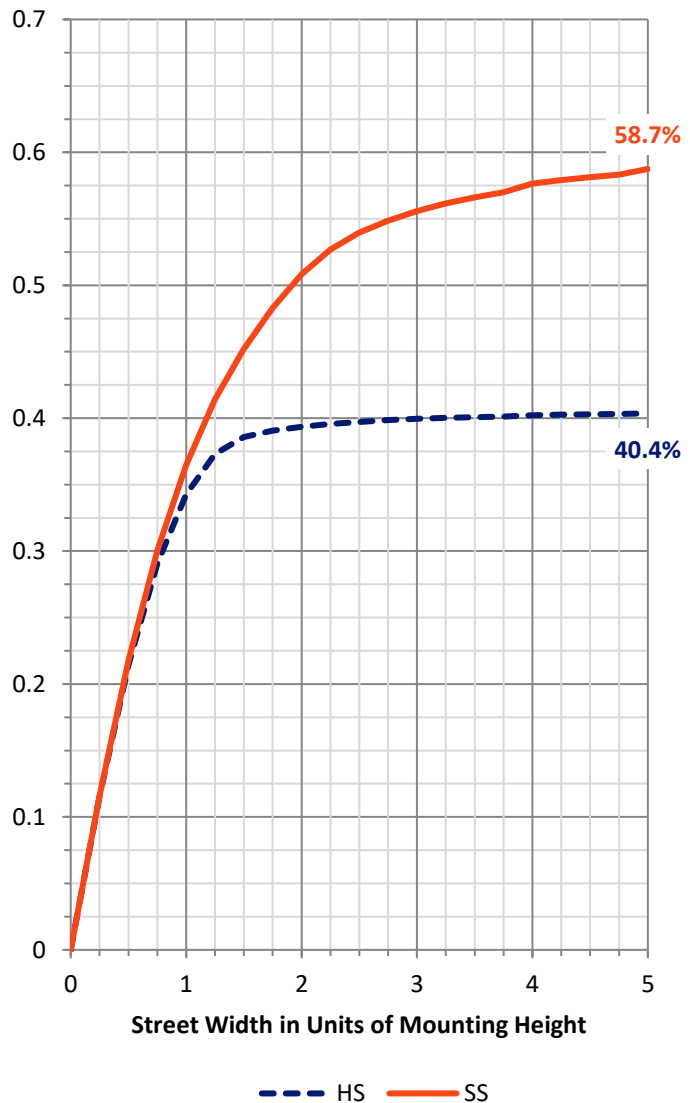
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3868.2	0.0	3868.2
	% Fixture	40.7	0.0	40.7
Street Side	Lumens	5646.8	0.0	5646.8
	% Fixture	59.3	0.0	59.3
Total	Lumens	9515.0	0.0	9515.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	289.7	3.0
10°-20°	841.8	8.8
20°-30°	1308.7	13.8
30°-40°	1640.1	17.2
40°-50°	1785.9	18.8
50°-60°	1613.3	17.0
60°-70°	1228.2	12.9
70°-80°	649.4	6.8
80°-90°	158.0	1.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	9515.0	100.0
0°-180°	9515.0	100.0

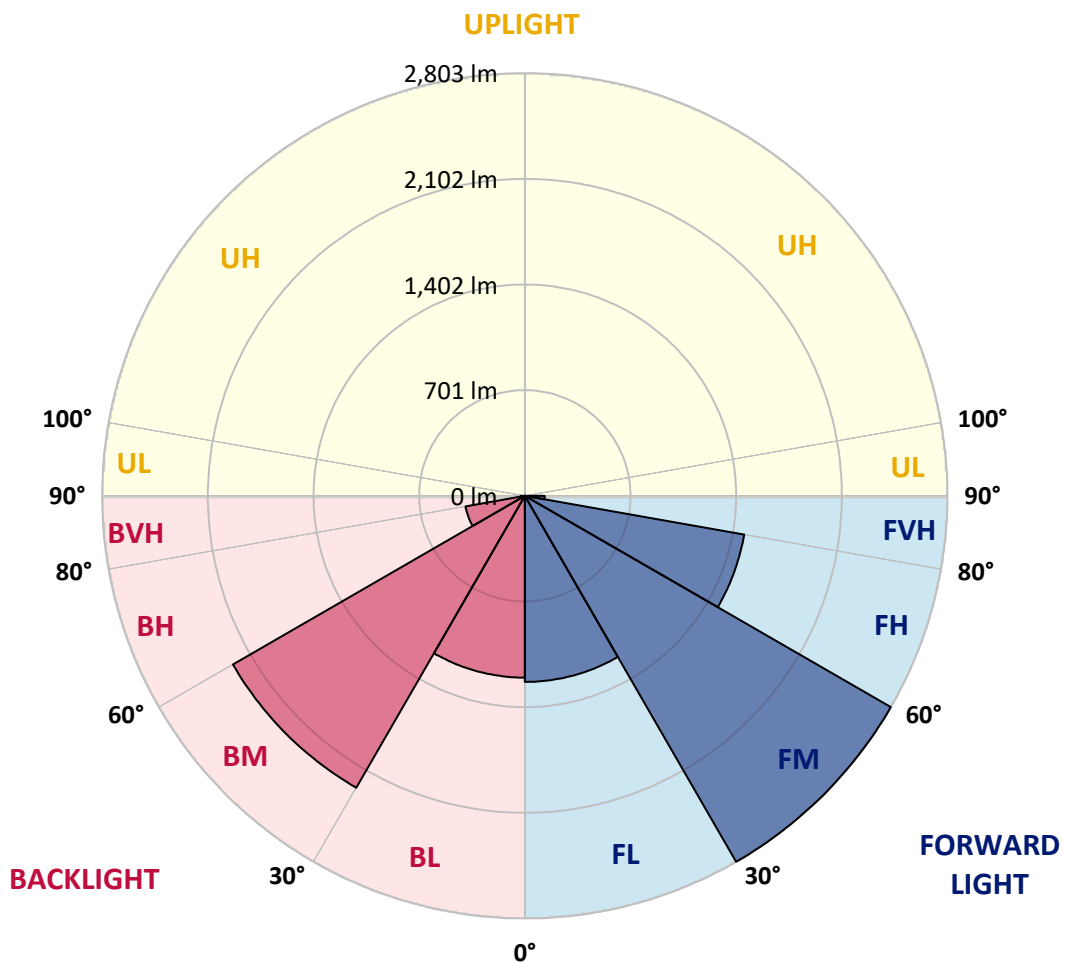


REPORT NUMBER: P1449883
 CATALOG NUMBER: TWC150_T4_60W_5000K

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1234.3	13.0			
FM (30°-60°)	2803.2	29.5			
FH (60°-80°)	1477.7	15.5			G1/1800
FVH (80°-90°)	131.6	1.4			G2/225
BL (0°-30°)	1205.9	12.7	B3/2500		
BM (30°-60°)	2236.0	23.5	B2/2500		
BH (60°-80°)	399.9	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





REPORT NUMBER: P1449883

CATALOG NUMBER: TWC150_T4_60W_5000K

CANDELA DISTRIBUTION (FULL):

	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°
0°	3045.3	3045.3	3045.3	3045.3	3045.3	3045.3	3045.3	3045.3	3045.3	3045.3	3045.3
1°	3050.9	3050.6	3049.1	3047.0	3045.8	3044.5	3044.7	3042.4	3042.8	3041.5	3041.0
2°	3055.1	3053.6	3051.0	3048.5	3046.1	3042.8	3043.7	3038.9	3038.5	3038.6	3037.5
3°	3058.6	3056.5	3053.2	3049.7	3045.0	3040.8	3040.3	3034.7	3034.6	3035.0	3036.7
4°	3061.8	3059.0	3055.4	3049.4	3043.2	3036.5	3034.5	3029.8	3029.7	3033.4	3037.7
5°	3064.6	3061.1	3055.6	3049.1	3039.1	3031.9	3028.4	3023.3	3024.8	3033.2	3039.5
6°	3068.8	3064.2	3056.8	3047.5	3037.4	3025.8	3020.8	3015.7	3020.8	3032.1	3036.9
7°	3072.1	3066.9	3057.3	3044.7	3032.3	3018.7	3011.7	3007.2	3016.8	3027.7	3030.2
8°	3076.6	3069.7	3057.4	3042.0	3026.3	3010.3	3002.2	2998.3	3012.0	3019.8	3021.0
9°	3080.7	3072.9	3058.0	3038.5	3019.2	3001.4	2991.7	2988.7	3005.0	3009.4	3012.1
10°	3084.3	3075.4	3058.0	3035.9	3012.8	2991.8	2978.7	2979.2	2995.6	2997.7	3003.0
11°	3085.6	3077.4	3057.6	3032.4	3005.4	2982.0	2966.1	2969.3	2983.9	2986.9	2994.1
12°	3085.3	3077.5	3056.0	3026.8	2997.0	2968.9	2952.7	2958.3	2971.2	2976.0	2986.0
13°	3085.0	3075.6	3052.0	3019.4	2985.9	2956.2	2937.1	2945.2	2956.8	2963.0	2978.6
14°	3084.7	3074.9	3048.8	3010.8	2974.4	2943.7	2920.4	2930.5	2941.3	2952.1	2971.3
15°	3084.4	3073.5	3043.1	3002.9	2960.7	2927.8	2903.1	2914.8	2924.4	2939.8	2962.4
16°	3084.1	3069.9	3037.6	2992.1	2946.4	2912.0	2885.2	2897.6	2908.1	2928.1	2952.3
17°	3083.1	3067.3	3031.5	2980.4	2929.4	2893.1	2866.0	2879.8	2890.3	2915.4	2942.0
18°	3081.1	3063.9	3024.7	2968.1	2911.6	2873.0	2844.7	2859.3	2873.2	2901.6	2932.2
19°	3078.7	3059.6	3017.3	2955.9	2892.6	2850.0	2823.7	2838.7	2854.6	2886.5	2920.9
20°	3076.3	3055.4	3009.6	2943.3	2873.1	2826.9	2800.4	2817.2	2837.0	2871.1	2909.6
21°	3072.0	3051.6	3001.3	2929.7	2854.7	2801.0	2777.7	2795.5	2818.0	2857.3	2897.9
22°	3067.2	3045.6	2992.4	2916.3	2833.5	2775.9	2753.4	2771.2	2798.2	2841.1	2885.2
23°	3062.4	3039.2	2983.3	2901.5	2812.1	2748.1	2727.0	2748.4	2776.3	2824.9	2871.8
24°	3058.6	3034.3	2974.0	2887.8	2790.8	2720.0	2700.6	2723.4	2753.5	2805.7	2857.2
25°	3053.9	3026.7	2964.1	2870.6	2768.5	2691.0	2671.6	2699.0	2729.8	2788.0	2843.5
26°	3049.3	3021.0	2953.5	2855.6	2746.5	2661.1	2641.9	2671.8	2705.9	2769.3	2827.8
27°	3045.0	3013.8	2943.2	2838.9	2722.0	2631.6	2611.3	2644.3	2681.2	2749.8	2813.2
28°	3037.9	3006.5	2931.0	2821.2	2698.8	2600.3	2580.6	2615.7	2656.5	2729.1	2795.5
29°	3030.4	2997.4	2919.6	2802.9	2673.1	2569.6	2547.6	2586.2	2631.8	2709.5	2778.3
30°	3024.5	2988.8	2906.6	2783.8	2646.9	2537.1	2514.6	2554.7	2606.5	2688.2	2758.6
31°	3021.0	2981.6	2892.3	2765.1	2619.9	2504.3	2481.3	2522.3	2579.3	2665.0	2739.0
32°	3017.9	2975.4	2877.2	2745.1	2592.9	2469.8	2447.6	2488.7	2553.2	2641.8	2717.4
33°	3015.8	2969.3	2864.2	2723.8	2563.3	2435.5	2412.3	2453.7	2524.9	2617.3	2694.1
34°	3014.8	2964.4	2850.8	2702.1	2534.9	2400.8	2376.5	2419.3	2498.1	2592.7	2667.3
35°	3013.2	2961.2	2837.6	2679.7	2504.5	2364.4	2339.2	2382.2	2467.6	2565.5	2639.8
36°	3014.8	2957.0	2825.5	2656.2	2473.9	2327.3	2300.1	2346.7	2438.3	2538.1	2610.1
37°	3017.3	2955.9	2815.6	2633.5	2441.7	2288.8	2260.5	2309.1	2406.1	2508.2	2578.3
38°	3018.5	2954.9	2804.0	2611.3	2409.2	2250.2	2219.6	2271.2	2372.7	2477.3	2544.8
39°	3020.2	2952.3	2793.9	2587.2	2376.7	2208.5	2176.9	2232.9	2337.8	2443.2	2509.4
40°	3019.5	2948.2	2785.2	2565.9	2341.1	2166.3	2133.6	2194.8	2303.2	2408.7	2474.0
41°	3020.4	2943.9	2774.0	2544.3	2305.5	2123.7	2089.8	2156.7	2268.3	2373.0	2433.7
42°	3023.0	2941.3	2761.5	2525.7	2270.6	2079.9	2044.3	2116.7	2231.7	2334.6	2393.8
43°	3026.1	2938.9	2748.2	2503.3	2235.3	2035.9	1998.9	2076.3	2193.3	2295.0	2347.8
44°	3034.6	2939.2	2736.8	2482.0	2200.2	1989.7	1953.6	2036.0	2155.9	2252.4	2300.3



REPORT NUMBER: P1449883

CATALOG NUMBER: TWC150_T4_60W_5000K

CANDELA DISTRIBUTION (continued):

	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°
45°	3045.8	2945.0	2723.8	2459.2	2167.5	1945.0	1904.8	1994.2	2115.3	2208.9	2247.4
46°	3054.3	2952.3	2711.3	2436.1	2135.4	1896.6	1857.5	1950.8	2074.3	2164.2	2190.7
47°	3065.1	2954.4	2703.2	2411.2	2104.0	1852.1	1809.1	1908.5	2032.6	2118.8	2129.6
48°	3071.8	2959.3	2701.9	2384.9	2074.1	1804.6	1760.2	1863.0	1988.5	2066.4	2064.2
49°	3079.2	2960.4	2694.3	2362.3	2044.1	1759.9	1709.2	1819.4	1942.9	2012.6	1994.2
50°	3081.7	2966.0	2684.4	2335.7	2015.0	1712.6	1657.8	1771.4	1896.1	1953.5	1920.4
51°	3073.9	2969.3	2673.2	2313.4	1984.4	1667.1	1607.1	1723.1	1846.6	1891.9	1842.8
52°	3054.3	2957.8	2659.7	2292.4	1955.3	1621.7	1554.3	1672.0	1795.0	1825.4	1752.7
53°	3035.5	2934.0	2648.1	2269.9	1920.7	1576.8	1501.1	1620.2	1742.4	1755.9	1642.5
54°	3034.3	2914.6	2628.2	2240.8	1882.0	1532.3	1447.3	1567.0	1688.3	1682.4	1503.3
55°	3044.4	2915.2	2599.7	2212.6	1840.8	1484.8	1393.1	1512.3	1630.6	1605.2	1327.9
56°	3052.1	2920.4	2572.4	2181.0	1795.8	1438.6	1340.0	1460.0	1569.4	1522.5	1128.9
57°	3069.0	2924.4	2561.9	2150.6	1749.5	1388.3	1285.7	1405.2	1503.8	1435.1	938.4
58°	3114.9	2937.7	2560.8	2115.3	1704.5	1336.2	1233.2	1350.4	1434.5	1327.3	748.0
59°	3187.4	2985.4	2556.1	2062.1	1660.1	1278.2	1181.5	1289.3	1360.6	1196.6	559.1
60°	3268.1	3056.0	2550.9	2008.8	1611.0	1217.3	1131.5	1231.3	1289.5	1022.6	447.0
61°	3321.9	3136.2	2565.6	1964.4	1560.4	1152.4	1082.1	1167.5	1214.9	848.7	367.3
62°	3314.4	3177.7	2617.0	1932.6	1503.3	1088.0	1033.2	1102.8	1140.3	674.9	323.4
63°	3251.8	3153.5	2692.3	1903.9	1443.9	1021.8	984.4	1038.2	1060.5	513.4	301.9
64°	3125.5	3069.6	2758.5	1879.1	1378.8	956.0	933.8	971.9	977.5	394.1	289.2
65°	2956.1	2916.2	2755.3	1868.1	1303.5	891.4	881.4	909.6	881.3	317.6	277.7
66°	2777.5	2727.4	2668.2	1885.9	1217.4	825.9	828.9	847.8	785.0	276.1	266.5
67°	2555.9	2540.6	2494.4	1963.3	1133.0	767.5	776.1	786.0	687.9	257.0	254.6
68°	2307.1	2284.0	2266.1	2076.3	1057.4	708.3	713.9	720.6	547.8	244.2	242.2
69°	2131.2	2077.5	2028.4	2101.3	990.8	653.7	651.3	663.1	407.2	231.8	229.8
70°	2042.2	1951.6	1788.3	1958.2	926.3	599.1	586.7	605.5	302.2	219.0	217.7
71°	1964.8	1884.7	1620.1	1651.9	870.4	549.9	524.0	551.3	242.6	205.7	205.8
72°	1889.1	1812.1	1530.3	1346.0	845.7	502.3	463.2	494.5	213.2	192.4	194.9
73°	1807.1	1738.4	1456.8	1140.9	936.3	455.4	405.2	436.3	196.6	179.4	185.5
74°	1722.8	1662.9	1378.4	1057.6	1180.1	410.2	352.1	379.3	182.0	167.1	175.1
75°	1617.5	1582.0	1292.2	982.0	1037.1	362.2	302.0	319.6	166.7	155.7	161.8
76°	1504.4	1489.7	1210.6	920.6	656.4	314.2	259.0	266.0	153.0	144.9	148.2
77°	1375.6	1394.3	1117.8	862.1	466.7	266.1	218.1	210.6	139.6	134.3	133.9
78°	1228.0	1287.3	1029.4	764.7	399.6	241.7	182.1	168.3	127.2	121.5	119.5
79°	1078.9	1160.5	959.9	615.4	432.4	212.8	150.0	141.7	114.6	107.9	106.9
80°	921.8	1027.4	882.3	517.4	458.4	183.4	122.9	124.0	103.3	94.4	94.4
81°	772.3	881.7	793.4	464.7	361.5	167.4	100.2	108.2	91.9	80.7	82.0
82°	640.6	740.0	693.8	420.8	264.2	146.4	77.6	92.3	80.6	65.3	74.5
83°	534.2	629.2	551.3	357.2	166.9	130.6	60.1	76.5	67.7	52.2	65.4
84°	380.7	484.8	452.4	293.0	140.2	105.3	44.9	61.6	54.6	44.7	54.7
85°	273.8	356.5	348.7	228.9	119.9	67.1	32.7	48.1	42.0	37.1	43.1
86°	167.3	228.8	244.8	98.8	98.2	44.1	22.5	35.5	29.9	27.6	30.5
87°	70.0	101.0	140.9	38.9	68.4	35.3	15.6	23.7	21.5	19.5	21.6
88°	34.9	50.2	71.3	28.3	21.6	26.6	8.8	15.9	14.6	11.4	12.7
89°	1.1	1.0	1.7	18.9	16.3	17.9	2.1	8.1	7.7	3.4	4.1



REPORT NUMBER: P1449883
 CATALOG NUMBER: TWC150_T4_60W_5000K

CANDELA DISTRIBUTION (continued):

	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
91°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
94°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
96°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
98°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
99°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
101°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
103°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
104°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
106°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
108°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
109°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
111°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
112°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
113°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
114°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
116°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
118°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
119°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
121°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
123°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
124°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
126°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
128°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
129°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
131°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
133°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
134°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P1449883
 CATALOG NUMBER: TWC150_T4_60W_5000K

CANDELA DISTRIBUTION (continued):

	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
136°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
138°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
139°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
141°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
143°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
144°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
146°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
148°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
149°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
151°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
153°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
154°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
156°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
158°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
159°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
161°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
163°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
164°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
166°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
168°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
169°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
171°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
173°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
174°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
176°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
178°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
179°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P1449883
CATALOG NUMBER: TWC150_T4_60W_5000K

CANDELA DISTRIBUTION (continued):

	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P1449883

CATALOG NUMBER: TWC150_T4_60W_5000K

CANDELA DISTRIBUTION (continued):

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
0°	3045.3	3045.3	3045.3	3045.3	3045.3	3045.3	3045.3	3045.3	3045.3	3045.3	3045.3
1°	3041.2	3041.5	3042.1	3042.8	3041.4	3042.0	3043.6	3046.9	3047.7	3049.2	3050.1
2°	3038.6	3039.5	3039.0	3039.3	3038.9	3039.3	3040.9	3046.6	3046.9	3050.4	3052.5
3°	3037.5	3039.1	3038.3	3037.4	3036.1	3036.1	3038.1	3044.6	3046.6	3051.3	3054.7
4°	3041.4	3043.3	3041.6	3038.4	3034.3	3032.0	3033.3	3040.1	3044.8	3049.7	3055.8
5°	3043.0	3044.7	3043.6	3040.4	3034.4	3028.3	3028.5	3036.5	3041.6	3050.0	3057.0
6°	3039.6	3040.3	3040.9	3039.6	3034.5	3023.8	3021.4	3030.4	3037.6	3048.0	3056.8
7°	3032.5	3033.5	3034.2	3034.8	3031.1	3021.2	3015.1	3023.1	3032.2	3045.2	3056.0
8°	3023.4	3025.8	3025.9	3026.2	3025.4	3018.4	3007.0	3014.4	3026.4	3041.6	3055.6
9°	3017.0	3019.1	3020.2	3017.4	3017.4	3013.7	2997.8	3006.1	3019.6	3037.0	3053.1
10°	3009.4	3012.2	3012.4	3009.0	3006.8	3006.1	2989.1	2996.0	3010.8	3031.6	3049.1
11°	3003.7	3007.7	3006.0	3000.5	2995.9	2995.3	2978.9	2984.1	3002.0	3024.2	3045.6
12°	2997.7	3004.1	3001.0	2993.1	2985.3	2984.0	2969.7	2972.1	2992.4	3014.9	3041.2
13°	2993.3	2998.9	2994.6	2985.1	2973.5	2969.9	2958.1	2959.3	2980.8	3005.0	3036.8
14°	2986.0	2991.7	2988.7	2978.2	2963.2	2955.0	2945.6	2945.1	2967.7	2994.8	3029.3
15°	2979.0	2985.8	2982.2	2970.5	2951.2	2939.9	2931.5	2928.8	2953.8	2982.4	3020.3
16°	2970.1	2978.2	2973.9	2960.2	2940.5	2923.5	2916.4	2912.3	2937.3	2969.0	3008.9
17°	2960.3	2969.7	2965.3	2950.7	2928.6	2906.8	2899.7	2893.4	2919.3	2952.7	2998.1
18°	2952.5	2962.8	2957.5	2941.0	2915.3	2889.2	2880.8	2875.3	2899.6	2935.0	2987.9
19°	2943.9	2955.0	2949.3	2929.9	2901.4	2874.0	2861.7	2854.1	2878.0	2916.9	2975.6
20°	2934.2	2945.4	2939.4	2919.2	2886.7	2855.9	2839.9	2831.8	2854.1	2900.1	2965.5
21°	2924.7	2936.8	2928.6	2908.4	2871.7	2837.7	2819.2	2809.1	2829.5	2882.1	2954.0
22°	2912.9	2928.6	2918.8	2895.0	2856.7	2818.5	2796.8	2784.6	2805.6	2863.4	2940.9
23°	2903.7	2918.4	2909.6	2881.6	2840.9	2798.3	2774.1	2757.4	2779.6	2843.3	2927.5
24°	2894.1	2908.5	2899.3	2866.9	2824.4	2776.3	2750.5	2732.2	2753.1	2823.1	2913.6
25°	2881.5	2897.3	2887.8	2852.8	2806.4	2754.2	2726.5	2703.1	2725.6	2802.0	2900.0
26°	2869.2	2884.8	2874.9	2838.9	2788.4	2728.6	2700.2	2674.0	2696.8	2780.0	2884.9
27°	2855.4	2869.9	2860.8	2824.5	2769.0	2705.4	2673.1	2643.9	2668.9	2758.6	2869.2
28°	2838.6	2855.5	2845.2	2808.6	2749.6	2681.0	2644.7	2614.2	2640.6	2734.9	2852.5
29°	2821.6	2838.7	2828.3	2791.7	2728.2	2655.5	2614.9	2582.1	2608.5	2711.2	2834.3
30°	2803.6	2818.8	2810.6	2774.1	2707.4	2630.8	2584.8	2550.9	2577.0	2685.5	2817.2
31°	2782.0	2797.0	2789.3	2753.2	2685.7	2604.6	2552.5	2517.5	2545.4	2660.5	2799.4
32°	2759.2	2772.4	2765.8	2732.2	2662.5	2578.9	2520.2	2485.0	2512.9	2634.2	2782.4
33°	2732.8	2747.9	2740.7	2707.3	2637.8	2551.3	2484.4	2450.3	2479.4	2607.7	2761.4
34°	2706.2	2720.3	2713.9	2683.2	2613.2	2522.8	2451.1	2415.6	2446.6	2579.0	2742.1
35°	2677.1	2691.5	2685.7	2654.7	2587.8	2492.7	2413.0	2378.1	2411.0	2550.0	2719.6
36°	2647.2	2660.8	2654.8	2626.6	2560.1	2462.6	2377.4	2341.4	2374.2	2521.1	2697.8
37°	2613.9	2629.1	2623.4	2593.9	2531.4	2430.6	2339.3	2301.5	2338.7	2489.5	2675.0
38°	2580.9	2594.7	2590.5	2561.5	2502.1	2398.3	2303.1	2262.8	2298.7	2459.7	2654.8
39°	2544.0	2556.6	2554.5	2525.6	2469.2	2364.3	2264.6	2220.5	2259.9	2426.5	2633.3
40°	2506.7	2516.4	2516.7	2491.2	2434.7	2330.0	2227.8	2178.1	2217.2	2393.4	2611.4
41°	2462.2	2469.0	2473.8	2454.3	2398.5	2295.9	2188.6	2134.5	2178.0	2357.8	2590.2
42°	2412.8	2418.8	2426.6	2414.3	2361.4	2260.1	2148.6	2091.5	2133.6	2323.3	2570.5
43°	2360.7	2361.1	2373.1	2372.1	2321.8	2222.9	2108.3	2045.4	2090.1	2288.7	2551.6
44°	2302.5	2301.9	2319.4	2324.8	2281.6	2185.6	2067.2	2000.2	2045.0	2255.6	2530.1



REPORT NUMBER: P1449883
 CATALOG NUMBER: TWC150_T4_60W_5000K

CANDELA DISTRIBUTION (continued):

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
45°	2241.2	2236.4	2257.3	2274.0	2239.7	2146.0	2026.9	1953.0	2000.9	2224.9	2511.7
46°	2173.5	2167.2	2192.4	2219.0	2196.2	2106.6	1983.6	1904.1	1954.4	2191.0	2487.3
47°	2103.2	2092.0	2122.5	2160.8	2151.4	2065.8	1941.3	1855.8	1908.5	2161.9	2463.8
48°	2027.1	2010.0	2048.1	2097.0	2103.8	2022.7	1896.5	1805.1	1861.6	2129.8	2438.5
49°	1941.7	1902.8	1964.8	2029.2	2051.5	1977.9	1850.7	1757.1	1814.5	2103.2	2418.2
50°	1832.3	1772.1	1864.2	1959.2	1995.6	1932.8	1804.0	1704.6	1767.8	2073.6	2392.6
51°	1695.8	1600.2	1734.1	1881.9	1936.1	1884.8	1755.1	1653.6	1721.1	2046.9	2369.5
52°	1516.9	1395.5	1566.0	1799.3	1872.7	1835.9	1706.2	1600.0	1676.5	2014.3	2349.3
53°	1316.0	1175.9	1369.1	1702.3	1806.6	1782.8	1655.1	1548.2	1629.8	1980.8	2326.4
54°	1109.1	983.4	1147.4	1578.5	1736.8	1730.2	1605.4	1494.7	1587.0	1944.6	2301.6
55°	902.1	790.9	958.8	1419.0	1661.6	1673.5	1551.3	1439.6	1540.2	1905.3	2271.7
56°	696.4	600.1	770.1	1231.9	1583.6	1615.1	1497.8	1385.7	1494.8	1862.2	2243.9
57°	550.0	488.2	582.4	1032.3	1501.1	1551.8	1441.8	1328.9	1445.3	1814.6	2214.0
58°	451.7	413.3	473.4	832.6	1411.3	1484.6	1385.7	1276.0	1393.3	1771.8	2181.4
59°	385.6	366.8	400.2	634.7	1304.0	1415.7	1326.7	1221.6	1337.2	1725.6	2132.9
60°	348.2	344.4	356.4	498.2	1170.0	1346.8	1267.3	1172.4	1275.2	1678.9	2081.5
61°	331.0	333.0	334.5	403.7	991.2	1274.2	1205.0	1121.5	1213.4	1627.3	2033.6
62°	319.5	322.7	322.7	343.7	812.4	1200.8	1141.8	1072.5	1145.3	1573.6	2001.3
63°	309.3	313.5	312.0	311.8	634.4	1126.2	1079.3	1022.9	1080.7	1516.0	1974.8
64°	299.2	303.5	302.1	295.2	482.0	1050.8	1014.3	973.7	1011.0	1454.7	1949.8
65°	288.5	292.4	291.7	283.4	373.5	973.5	951.3	921.1	946.4	1385.3	1936.6
66°	277.1	282.1	279.8	272.2	308.5	881.5	889.0	864.9	878.8	1299.1	1950.7
67°	266.8	272.9	269.1	260.2	272.6	789.5	826.6	806.2	818.5	1213.1	2018.5
68°	256.5	263.4	259.0	247.8	254.2	697.5	764.3	742.7	758.8	1132.3	2137.4
69°	246.3	253.8	248.3	234.9	241.3	557.7	704.8	680.8	700.5	1066.5	2192.1
70°	236.2	245.8	238.5	222.4	228.4	413.0	648.7	617.3	644.9	998.3	2089.8
71°	228.1	237.5	230.0	210.3	215.3	304.2	594.4	553.9	591.4	939.1	1812.7
72°	218.4	225.8	221.2	199.1	202.7	242.3	540.3	491.3	541.1	902.6	1494.3
73°	205.2	212.1	208.5	188.8	189.3	210.7	485.1	432.6	493.0	941.2	1248.4
74°	190.9	197.0	195.1	179.8	176.6	193.3	431.3	381.2	448.6	1182.1	1112.4
75°	175.7	181.5	179.7	167.3	163.4	177.9	374.2	330.1	399.5	1225.4	1036.3
76°	160.6	165.9	164.3	153.9	152.1	163.1	318.4	279.0	354.3	835.3	979.5
77°	144.5	150.2	147.4	139.2	140.4	149.0	263.1	237.1	309.2	520.5	911.5
78°	130.5	138.7	132.0	125.0	129.4	135.9	211.9	198.1	264.2	438.8	831.8
79°	120.6	129.0	121.2	110.8	115.6	122.9	169.0	164.5	238.7	403.8	677.7
80°	112.3	120.1	112.1	96.7	101.7	110.3	140.0	134.9	209.4	507.8	565.9
81°	99.8	105.9	100.4	82.6	87.8	98.6	120.9	108.9	184.4	378.2	500.9
82°	87.4	91.6	88.8	74.8	73.9	87.0	104.5	87.0	166.4	279.4	453.8
83°	74.9	77.4	77.2	67.1	57.1	75.3	88.0	67.1	149.4	181.2	410.1
84°	60.1	61.9	62.2	56.8	46.7	61.8	71.6	51.0	132.9	150.3	316.3
85°	43.8	45.2	47.1	46.4	39.3	48.8	56.9	39.5	92.4	129.8	221.2
86°	32.4	34.1	34.4	33.6	30.9	36.1	42.5	28.1	50.9	108.4	126.1
87°	23.0	24.2	24.5	22.8	21.5	25.7	30.4	16.7	35.4	75.2	52.9
88°	13.6	14.3	14.5	15.8	14.9	17.5	20.5	8.9	20.0	42.3	26.5
89°	4.3	4.5	4.8	8.8	8.2	9.3	10.6	3.3	4.7	31.8	0.7



REPORT NUMBER: P1449883
 CATALOG NUMBER: TWC150_T4_60W_5000K

CANDELA DISTRIBUTION (continued):

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
91°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
94°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
96°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
98°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
99°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
101°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
103°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
104°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
106°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
108°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
109°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
111°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
112°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
113°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
114°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
116°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
118°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
119°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
121°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
123°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
124°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
126°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
128°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
129°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
131°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
133°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
134°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P1449883
 CATALOG NUMBER: TWC150_T4_60W_5000K

CANDELA DISTRIBUTION (continued):

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
136°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
138°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
139°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
141°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
143°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
144°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
146°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
148°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
149°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
151°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
153°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
154°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
156°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
158°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
159°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
161°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
163°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
164°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
166°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
168°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
169°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
171°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
173°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
174°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
176°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
178°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
179°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P1449883
CATALOG NUMBER: TWC150_T4_60W_5000K

CANDELA DISTRIBUTION (continued):

	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P1449883
 CATALOG NUMBER: TWC150_T4_60W_5000K

CANDELA DISTRIBUTION (continued):

	330°	345°	360°
0°	3045.3	3045.3	3045.3
1°	3050.0	3050.7	3050.9
2°	3054.0	3054.7	3055.1
3°	3057.5	3058.1	3058.6
4°	3059.3	3061.8	3061.8
5°	3060.5	3064.4	3064.6
6°	3062.9	3068.1	3068.8
7°	3065.1	3070.0	3072.1
8°	3066.3	3073.4	3076.6
9°	3067.2	3076.1	3080.7
10°	3067.3	3079.5	3084.3
11°	3067.7	3081.3	3085.6
12°	3065.9	3081.0	3085.3
13°	3063.1	3080.4	3085.0
14°	3059.4	3080.4	3084.7
15°	3054.3	3078.6	3084.4
16°	3047.9	3075.0	3084.1
17°	3043.6	3073.5	3083.1
18°	3036.5	3070.4	3081.1
19°	3031.5	3067.8	3078.7
20°	3025.4	3064.3	3076.3
21°	3018.8	3059.8	3072.0
22°	3009.8	3054.9	3067.2
23°	3001.3	3048.6	3062.4
24°	2992.2	3043.2	3058.6
25°	2982.1	3037.8	3053.9
26°	2973.3	3031.3	3049.3
27°	2962.0	3024.1	3045.0
28°	2952.7	3019.1	3037.9
29°	2940.7	3009.8	3030.4
30°	2929.5	3001.8	3024.5
31°	2916.6	2994.1	3021.0
32°	2902.6	2988.9	3017.9
33°	2890.0	2983.8	3015.8
34°	2878.1	2980.8	3014.8
35°	2865.7	2975.4	3013.2
36°	2854.3	2973.6	3014.8
37°	2844.3	2972.4	3017.3
38°	2834.0	2971.5	3018.5
39°	2827.2	2971.1	3020.2
40°	2817.7	2967.7	3019.5
41°	2808.8	2963.6	3020.4
42°	2796.6	2961.8	3023.0
43°	2785.3	2960.9	3026.1
44°	2773.5	2960.7	3034.6



REPORT NUMBER: P1449883
 CATALOG NUMBER: TWC150_T4_60W_5000K

CANDELA DISTRIBUTION (continued):

	330°	345°	360°
45°	2763.0	2966.9	3045.8
46°	2750.6	2973.1	3054.3
47°	2745.1	2977.9	3065.1
48°	2742.6	2983.1	3071.8
49°	2735.6	2987.0	3079.2
50°	2727.5	2991.5	3081.7
51°	2716.9	2992.0	3073.9
52°	2707.3	2981.2	3054.3
53°	2696.9	2956.8	3035.5
54°	2681.4	2939.5	3034.3
55°	2654.0	2938.1	3044.4
56°	2624.0	2946.5	3052.1
57°	2607.8	2950.1	3069.0
58°	2605.3	2963.9	3114.9
59°	2601.2	3008.8	3187.4
60°	2598.4	3077.9	3268.1
61°	2612.3	3158.0	3321.9
62°	2659.8	3202.8	3314.4
63°	2735.6	3182.4	3251.8
64°	2810.1	3103.0	3125.5
65°	2814.7	2960.2	2956.1
66°	2743.5	2771.0	2777.5
67°	2586.8	2582.0	2555.9
68°	2369.1	2328.8	2307.1
69°	2127.5	2105.3	2131.2
70°	1884.4	1970.4	2042.2
71°	1687.9	1898.5	1964.8
72°	1581.0	1830.2	1889.1
73°	1503.5	1750.4	1807.1
74°	1427.2	1677.4	1722.8
75°	1339.4	1590.8	1617.5
76°	1251.4	1500.2	1504.4
77°	1155.1	1401.4	1375.6
78°	1063.8	1300.3	1228.0
79°	989.3	1174.3	1078.9
80°	916.7	1040.0	921.8
81°	832.5	891.0	772.3
82°	731.9	746.5	640.6
83°	599.3	643.3	534.2
84°	477.5	505.8	380.7
85°	375.0	376.5	273.8
86°	273.7	247.3	167.3
87°	172.4	118.2	70.0
88°	13.9	59.0	34.9
89°	7.2	0.9	1.1



REPORT NUMBER: P1449883
CATALOG NUMBER: TWC150_T4_60W_5000K

CANDELA DISTRIBUTION (continued):

	330°	345°	360°
90°	0.0	0.0	0.0
91°	0.0	0.0	0.0
92°	0.0	0.0	0.0
93°	0.0	0.0	0.0
94°	0.0	0.0	0.0
95°	0.0	0.0	0.0
96°	0.0	0.0	0.0
97°	0.0	0.0	0.0
98°	0.0	0.0	0.0
99°	0.0	0.0	0.0
100°	0.0	0.0	0.0
101°	0.0	0.0	0.0
102°	0.0	0.0	0.0
103°	0.0	0.0	0.0
104°	0.0	0.0	0.0
105°	0.0	0.0	0.0
106°	0.0	0.0	0.0
107°	0.0	0.0	0.0
108°	0.0	0.0	0.0
109°	0.0	0.0	0.0
110°	0.0	0.0	0.0
111°	0.0	0.0	0.0
112°	0.0	0.0	0.0
113°	0.0	0.0	0.0
114°	0.0	0.0	0.0
115°	0.0	0.0	0.0
116°	0.0	0.0	0.0
117°	0.0	0.0	0.0
118°	0.0	0.0	0.0
119°	0.0	0.0	0.0
120°	0.0	0.0	0.0
121°	0.0	0.0	0.0
122°	0.0	0.0	0.0
123°	0.0	0.0	0.0
124°	0.0	0.0	0.0
125°	0.0	0.0	0.0
126°	0.0	0.0	0.0
127°	0.0	0.0	0.0
128°	0.0	0.0	0.0
129°	0.0	0.0	0.0
130°	0.0	0.0	0.0
131°	0.0	0.0	0.0
132°	0.0	0.0	0.0
133°	0.0	0.0	0.0
134°	0.0	0.0	0.0



REPORT NUMBER: P1449883
CATALOG NUMBER: TWC150_T4_60W_5000K

CANDELA DISTRIBUTION (continued):

	330°	345°	360°
135°	0.0	0.0	0.0
136°	0.0	0.0	0.0
137°	0.0	0.0	0.0
138°	0.0	0.0	0.0
139°	0.0	0.0	0.0
140°	0.0	0.0	0.0
141°	0.0	0.0	0.0
142°	0.0	0.0	0.0
143°	0.0	0.0	0.0
144°	0.0	0.0	0.0
145°	0.0	0.0	0.0
146°	0.0	0.0	0.0
147°	0.0	0.0	0.0
148°	0.0	0.0	0.0
149°	0.0	0.0	0.0
150°	0.0	0.0	0.0
151°	0.0	0.0	0.0
152°	0.0	0.0	0.0
153°	0.0	0.0	0.0
154°	0.0	0.0	0.0
155°	0.0	0.0	0.0
156°	0.0	0.0	0.0
157°	0.0	0.0	0.0
158°	0.0	0.0	0.0
159°	0.0	0.0	0.0
160°	0.0	0.0	0.0
161°	0.0	0.0	0.0
162°	0.0	0.0	0.0
163°	0.0	0.0	0.0
164°	0.0	0.0	0.0
165°	0.0	0.0	0.0
166°	0.0	0.0	0.0
167°	0.0	0.0	0.0
168°	0.0	0.0	0.0
169°	0.0	0.0	0.0
170°	0.0	0.0	0.0
171°	0.0	0.0	0.0
172°	0.0	0.0	0.0
173°	0.0	0.0	0.0
174°	0.0	0.0	0.0
175°	0.0	0.0	0.0
176°	0.0	0.0	0.0
177°	0.0	0.0	0.0
178°	0.0	0.0	0.0
179°	0.0	0.0	0.0



REPORT NUMBER: P1449883
CATALOG NUMBER: TWC150_T4_60W_5000K

CANDELA DISTRIBUTION (continued):

	330°	345°	360°
180°	0.0	0.0	0.0

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Lumark

Report Number: SP1-2601-659-3

Test Date: 02/12/2026

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

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

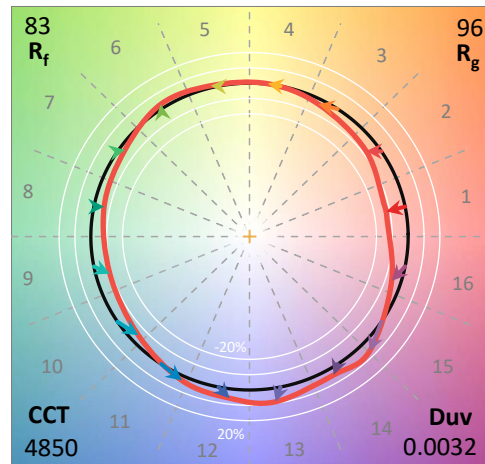
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2601-659-3
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 02/16/2026
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Lumark
 Catalog Number: **MWP2460W34VDDKYYAD-T4-24W-5000K**
 Description: Mester Wedge, at T4 beam setting, 24W output, 5000K

Spectral Parameters

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

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



Test Conditions

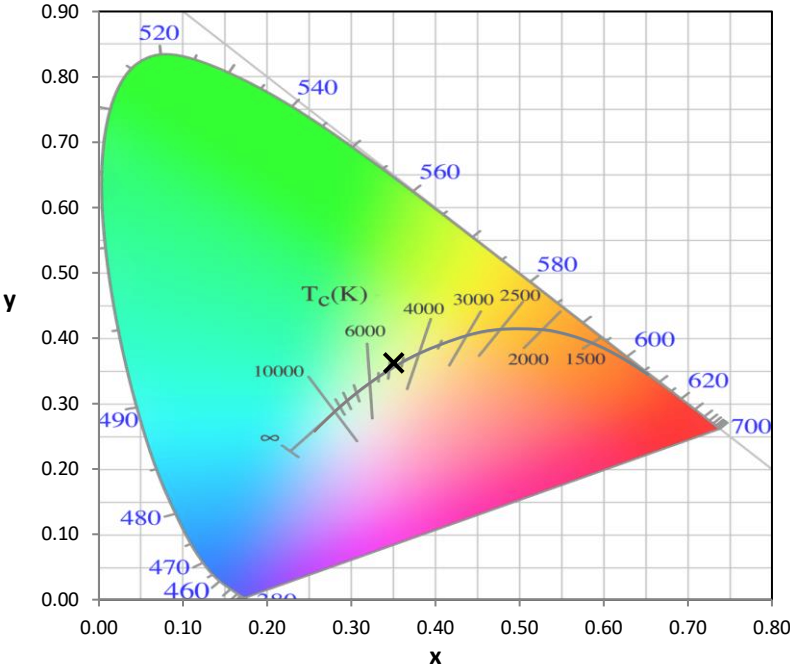
Stabilization Time: 25M
 Operation Time: 1H 25M
 Sphere Temperature (°C): 24.8

REPORT NUMBER: SP1-2601-659-3

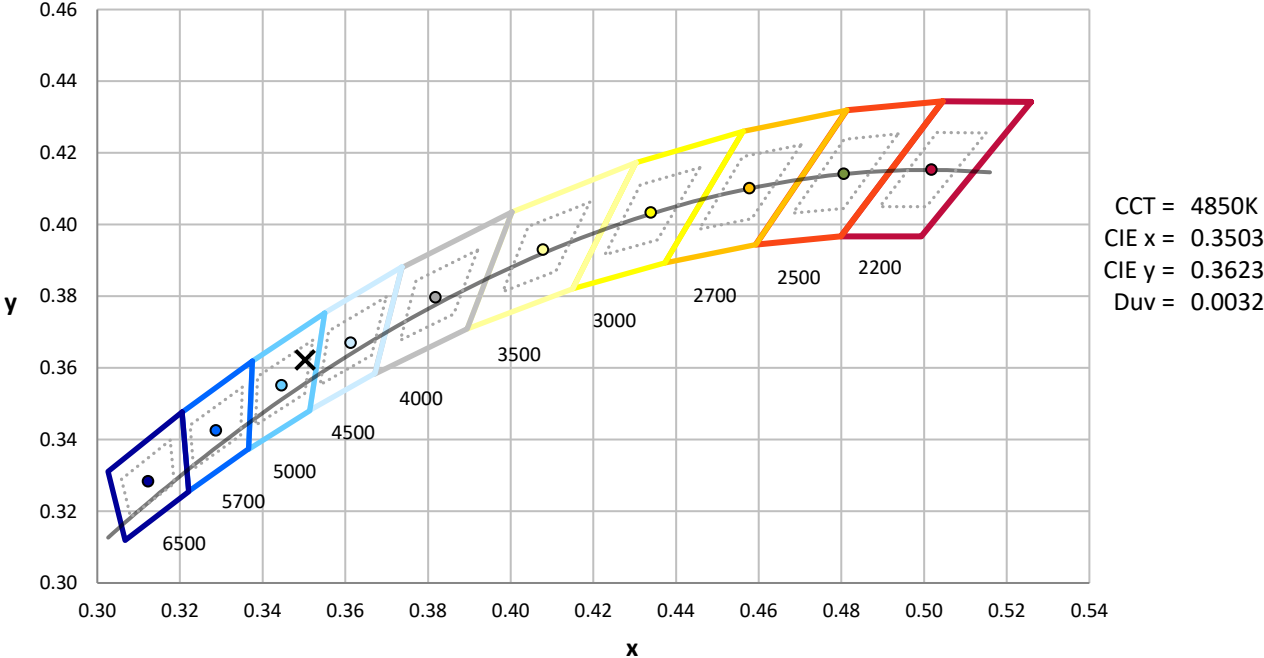
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208	10/21/2025	10/21/2026
Sphere Thermometer	ONSET IN0085	10/21/2025	10/21/2026
Room Thermometer	ONSET IN0046	10/21/2025	10/21/2026

REPORT NUMBER: SP1-2601-659-3

CIE 1931 Chromaticity Diagram



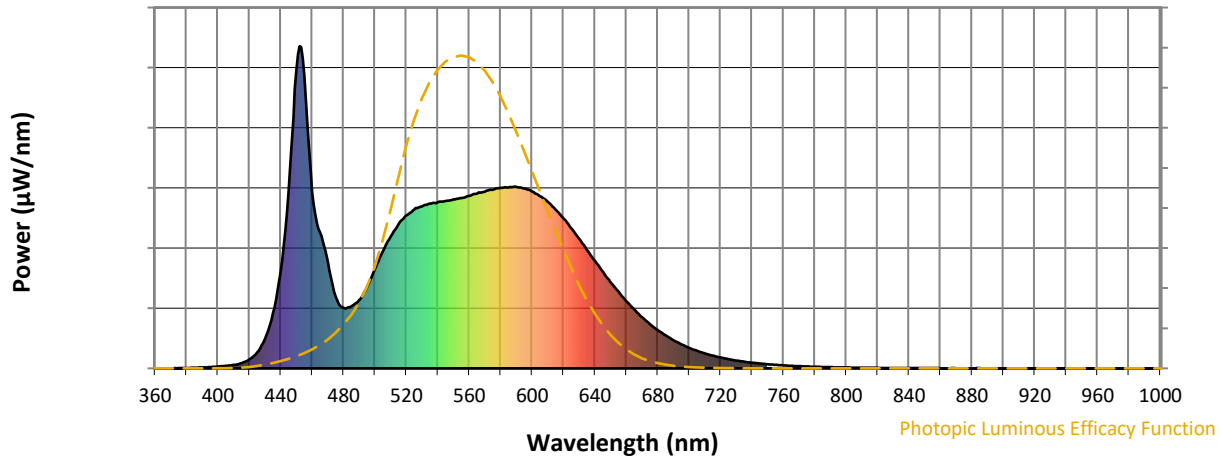
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 5000K 4-step quadrangle

REPORT NUMBER: SP1-2601-659-3

Photopic Flux vs. Wavelength

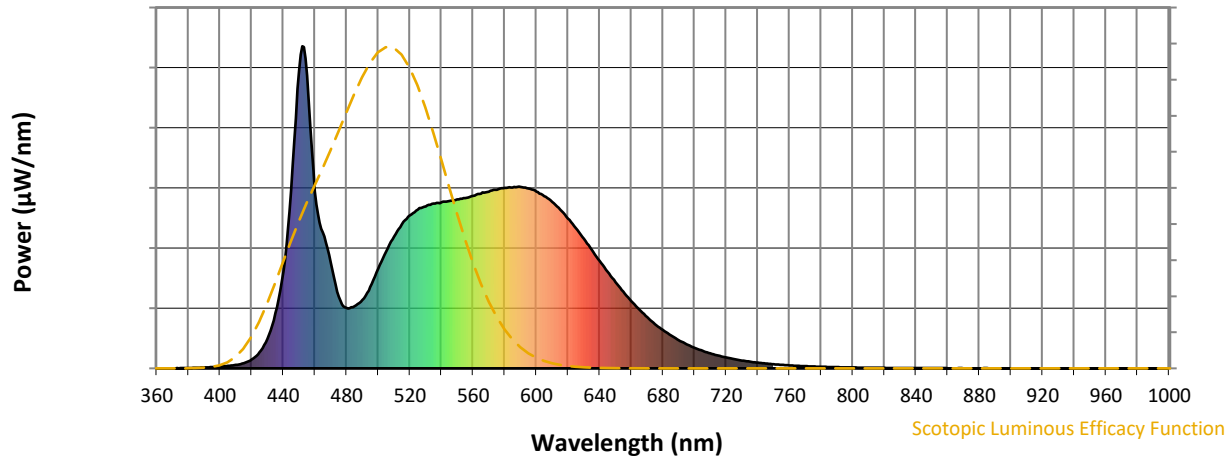


Photopic Lumens: NR

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

REPORT NUMBER: SP1-2601-659-3

Scotopic Flux vs. Wavelength



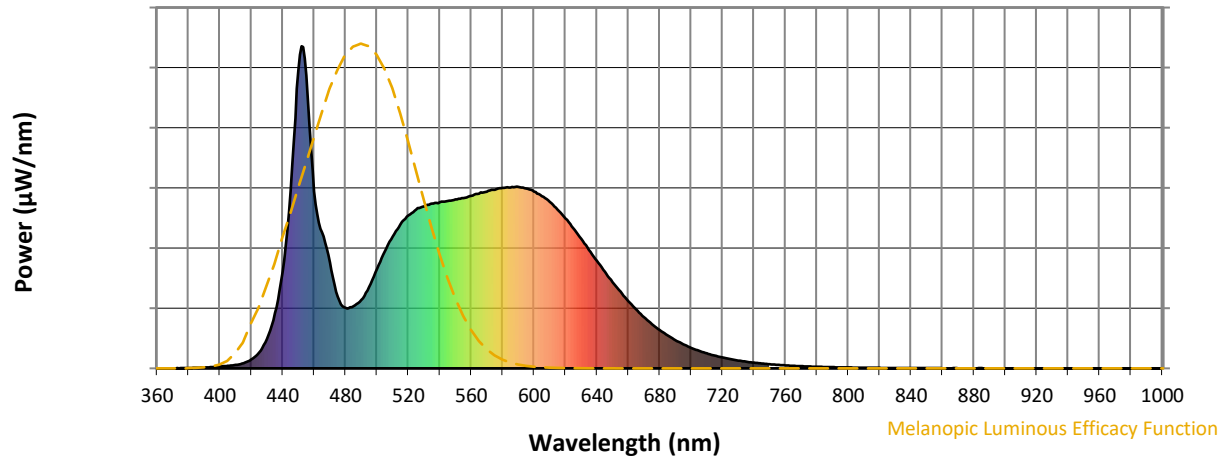
Scotopic Lumens: NR

S/P: 1.9

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

REPORT NUMBER: SP1-2601-659-3

Melanopic Flux vs. Wavelength



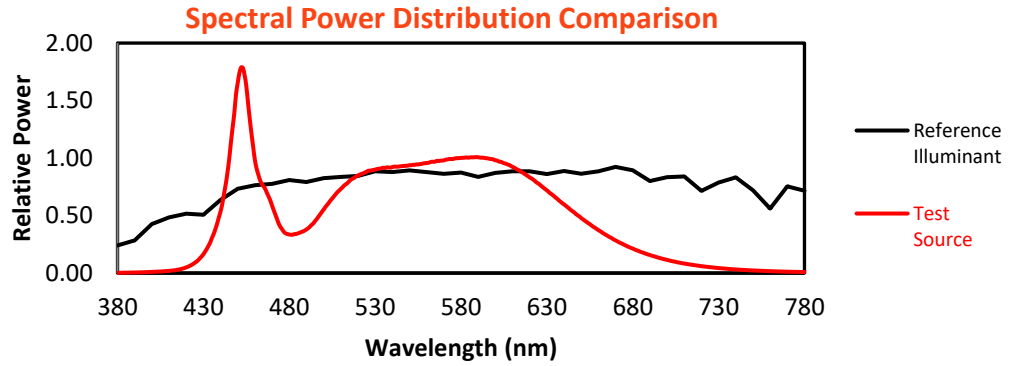
Melanopic Lumens: NR

M/P: 4

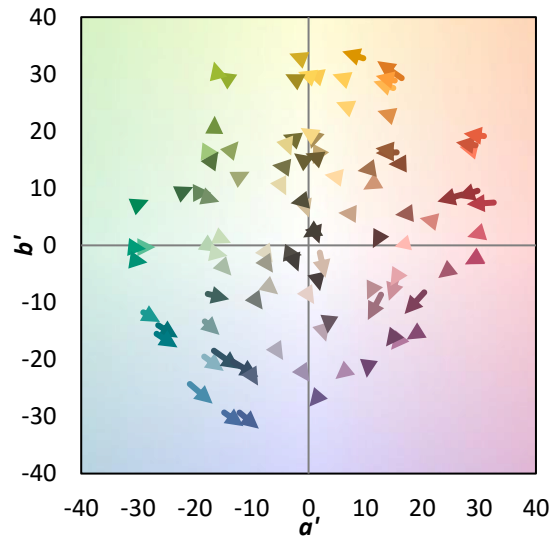
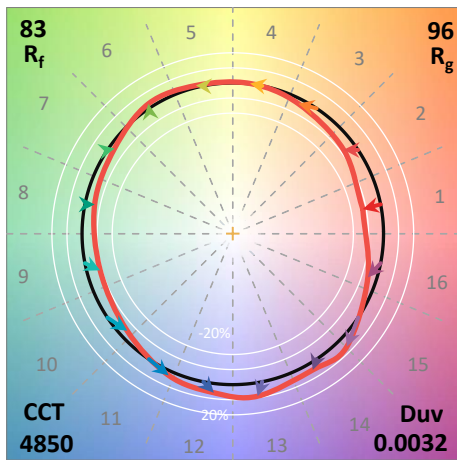
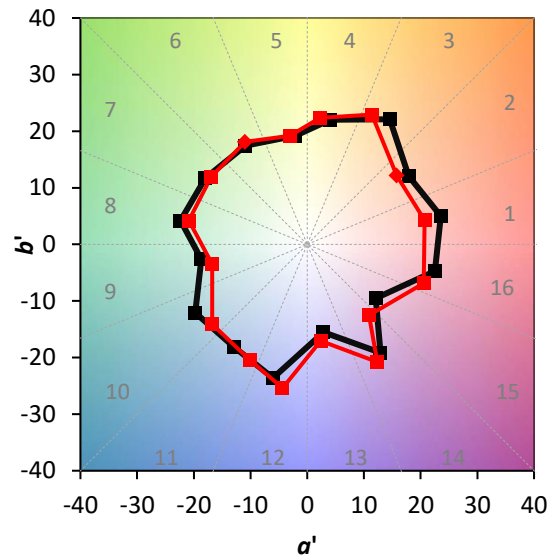
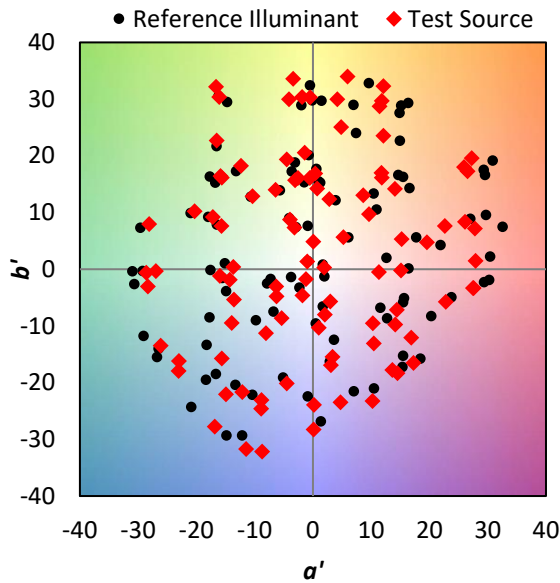
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	212	NR	620	465	NR	750	13	NR	880	0	NR
365	0	NR	495	253	NR	625	436	NR	755	11	NR	885	1	NR
370	0	NR	500	309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

Summary

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

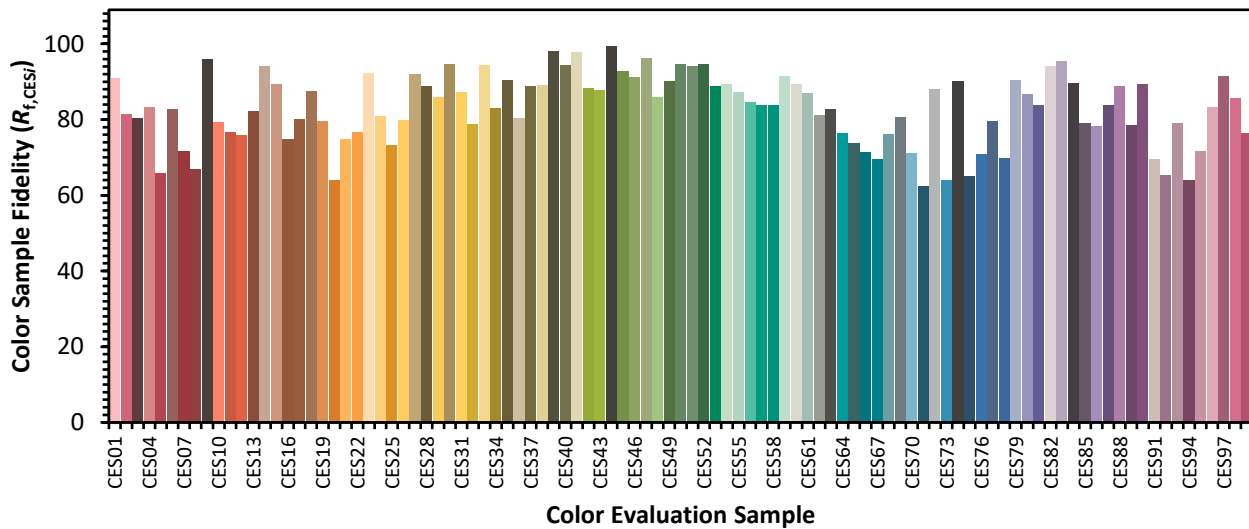


Color Vector Graphics

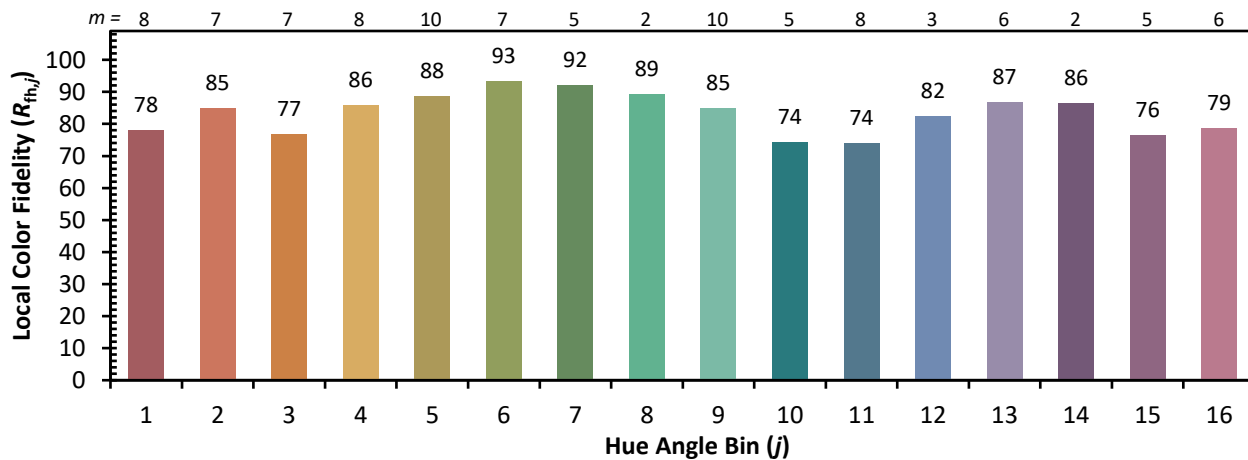
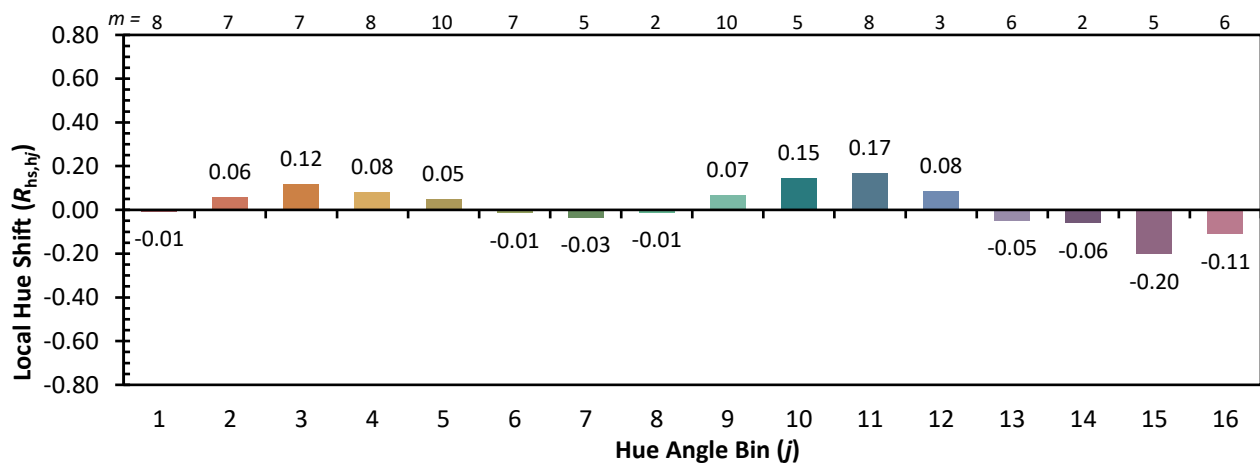
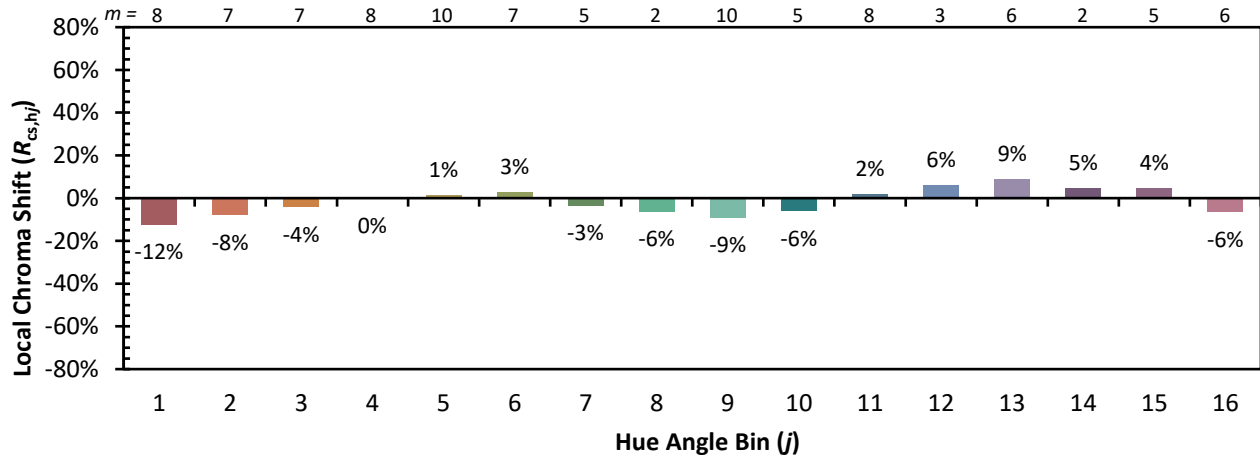


Individual Sample Fidelity Index ($R_{f,i}$)

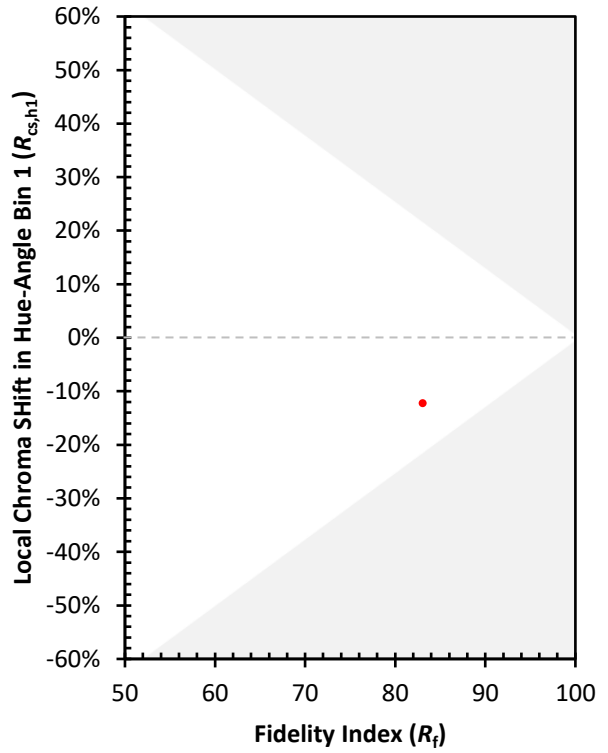
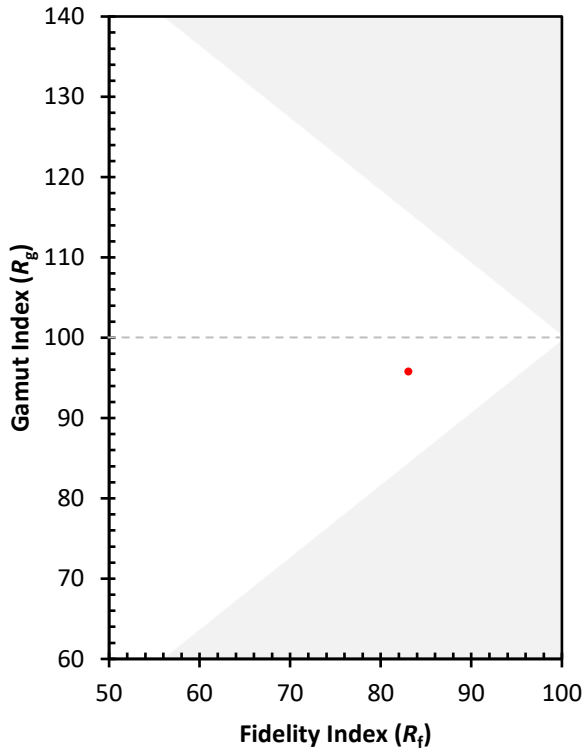
CES01 = 85	CES26 = 80	CES51 = 94	CES76 = 71
CES02 = 60	CES27 = 92	CES52 = 95	CES77 = 80
CES03 = 30	CES28 = 89	CES53 = 89	CES78 = 70
CES04 = 69	CES29 = 86	CES54 = 89	CES79 = 90
CES05 = 47	CES30 = 95	CES55 = 87	CES80 = 87
CES06 = 50	CES31 = 87	CES56 = 85	CES81 = 84
CES07 = 40	CES32 = 79	CES57 = 84	CES82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



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)