

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO COMMERCIAL

Report Number: P776546

Luminaire Tested: HCDJBS4050CSD-HCD41TRC-5000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776546
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B028)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD41TRC-5000lm-3000K
Description: 4 INCH ROUND SHALLOW-WIDE SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

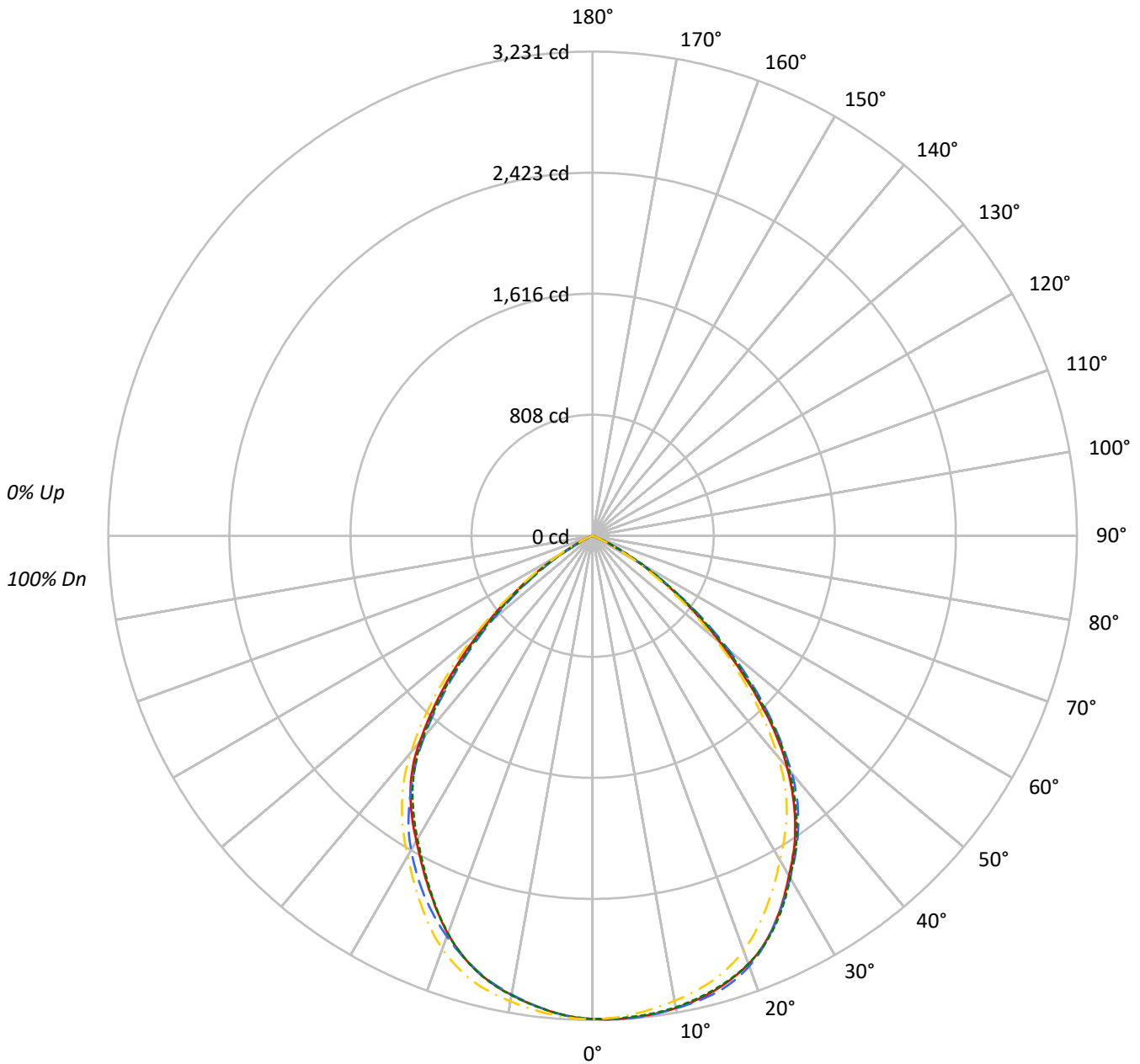
Lumens per Lamp: N/A
Luminaire Lumens: 5622.7 lumens
Efficiency: N/A
Efficacy: 117.1 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.16 / 1.22
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 48
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: 24 FT



TEST NUMBER: P776546
CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-3000K

Luminous Intensity Polar Plot





TEST NUMBER: P776546

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-3000K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20										
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	112	109	106	103	110	107	104	101	102	100	98	99	97	95	95	94	93	91								
2	105	99	94	90	102	97	92	89	94	90	87	91	87	85	88	85	83	81								
3	98	90	83	78	95	88	82	78	85	80	76	83	79	75	80	77	74	72								
4	91	81	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64								
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58								
6	79	68	61	55	77	67	60	55	65	59	55	64	58	54	62	58	54	52								
7	74	62	55	50	72	62	55	50	60	54	49	59	53	49	58	53	49	47								
8	69	58	50	45	68	57	50	45	56	49	45	55	49	45	53	48	44	43								
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	44	41	39								
10	61	49	42	38	60	49	42	38	48	42	38	47	42	37	46	41	37	36								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	405815	405815	405815	405815
5°	407542	406835	402615	402666
10°	408932	408216	397699	397878
15°	409421	408509	391246	391428
20°	407271	407150	378383	378008
25°	397875	399292	359661	358508
30°	380852	383220	341804	339581
35°	361932	364866	325443	321725
40°	331741	335257	294547	290193
45°	282612	287489	243653	237192
50°	219341	225156	185567	177560
55°	153918	160127	124231	115652
60°	88699	94765	64108	56632
65°	30880	35020	17450	13847
70°	1030	2208	1030	846
75°	924	1118	924	924
80°	652	1015	652	652
85°	0	722	0	722

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 291386 cd/sqm



TEST NUMBER: P776546

CATALOG NUMBER: HCDJBL4050CSD-HCD41TRC-5000lm-3000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	304.4	5.4
10°-20°	865.4	15.4
20°-30°	1255.8	22.3
30°-40°	1392.7	24.8
40°-50°	1130.8	20.1
50°-60°	567.8	10.1
60°-70°	103.3	1.8
70°-80°	2.1	0.0
80°-90°	0.5	0.0
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°-30°	2425.6	43.1
0°-40°	3818.3	67.9
0°-60°	5516.8	98.1
0°-90°	5622.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5622.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3225	3225	3225	3225	3225	
5°	3226	3220	3187	3187	3226	307
15°	3142	3135	3003	3004	3142	886
25°	2865	2876	2590	2582	2865	1315
35°	2356	2375	2118	2094	2356	1464
45°	1588	1615	1369	1333	1588	1215
55°	702	730	566	527	702	633
65°	104	118	59	46	104	123
75°	2	2	2	2	2	2
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



TEST NUMBER: P776546

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-3000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	3224.6	3224.6	3224.6	3224.6	3224.6	3224.6	3224.6	3224.6	3224.6	3224.6	3224.6
0.5°	3226.0	3226.0	3226.5	3227.4	3223.7	3224.6	3225.1	3225.1	3222.8	3222.3	3223.2
1°	3227.4	3227.4	3227.9	3228.4	3224.6	3224.2	3224.2	3224.2	3220.9	3220.0	3221.4
1.5°	3228.4	3228.4	3229.3	3229.3	3225.1	3223.7	3222.8	3221.4	3218.6	3217.7	3219.1
2°	3228.8	3229.3	3229.7	3229.7	3224.6	3222.8	3220.9	3218.1	3215.8	3214.4	3215.8
2.5°	3228.8	3230.2	3230.7	3229.7	3224.2	3221.8	3219.1	3215.3	3212.5	3211.2	3212.5
3°	3228.8	3230.2	3230.7	3229.7	3223.7	3220.4	3216.7	3211.6	3208.4	3207.0	3208.8
3.5°	3228.8	3230.2	3230.7	3229.3	3223.7	3218.6	3213.5	3207.4	3203.3	3201.9	3204.2
4°	3227.9	3229.7	3230.2	3229.3	3222.3	3217.2	3210.2	3203.3	3198.1	3197.2	3199.1
4.5°	3227.0	3229.3	3229.7	3228.4	3221.4	3214.9	3207.0	3198.6	3192.6	3191.2	3193.0
5°	3226.0	3227.9	3228.4	3227.4	3220.4	3213.0	3202.8	3193.0	3187.0	3185.1	3187.0
5.5°	3224.2	3227.0	3227.0	3225.6	3219.1	3210.2	3198.6	3187.4	3180.0	3178.6	3180.5
6°	3222.3	3225.1	3225.1	3224.2	3217.7	3207.4	3194.0	3181.4	3173.5	3172.1	3173.5
6.5°	3220.9	3223.2	3222.8	3221.8	3215.8	3204.6	3189.3	3175.4	3167.0	3165.1	3166.5
7°	3218.6	3220.9	3220.9	3219.5	3213.9	3200.9	3184.2	3168.9	3159.6	3157.7	3159.1
7.5°	3216.7	3218.1	3218.1	3217.2	3211.2	3197.7	3179.1	3162.3	3152.1	3150.3	3150.7
8°	3213.9	3214.9	3215.3	3214.4	3208.8	3194.0	3174.0	3155.8	3144.7	3142.4	3143.3
8.5°	3210.7	3211.6	3212.1	3211.2	3206.0	3189.8	3168.9	3149.3	3136.8	3134.5	3134.5
9°	3207.4	3208.4	3208.8	3207.4	3202.3	3185.6	3163.3	3141.9	3129.3	3126.6	3126.1
9.5°	3203.7	3204.2	3205.6	3203.3	3198.6	3181.4	3157.2	3134.9	3121.0	3118.2	3117.7
10°	3200.0	3200.0	3202.3	3199.1	3194.4	3176.3	3151.7	3127.5	3112.1	3110.3	3108.9
10.5°	3195.3	3195.8	3199.1	3195.3	3190.2	3170.7	3145.1	3120.0	3103.8	3102.4	3100.1
11°	3190.7	3191.2	3195.8	3190.7	3185.1	3164.7	3138.6	3112.1	3094.5	3093.5	3090.3
11.5°	3185.6	3186.1	3191.6	3185.6	3179.5	3158.2	3132.1	3104.2	3085.2	3084.7	3080.5
12°	3180.9	3181.4	3188.4	3180.5	3174.0	3152.1	3125.2	3096.3	3075.0	3075.4	3070.8
12.5°	3175.4	3176.3	3184.2	3174.4	3168.4	3145.1	3118.2	3088.0	3064.7	3066.1	3060.5
13°	3169.8	3171.2	3180.5	3168.4	3162.3	3138.2	3111.2	3079.6	3054.0	3055.9	3049.4
13.5°	3163.3	3165.1	3175.8	3161.9	3155.8	3130.3	3103.3	3070.8	3042.4	3045.7	3037.8
14°	3156.8	3158.6	3171.2	3155.4	3149.3	3122.8	3094.9	3061.0	3030.3	3035.0	3025.2
14.5°	3150.3	3151.7	3165.6	3148.4	3142.4	3114.5	3086.1	3050.3	3017.3	3022.9	3012.7
15°	3142.4	3144.7	3160.0	3140.5	3135.4	3105.6	3076.8	3039.6	3002.9	3010.8	2999.6
15.5°	3134.5	3136.3	3153.0	3132.1	3127.9	3096.8	3067.1	3027.5	2988.0	2997.8	2985.7
16°	3126.1	3127.0	3146.1	3122.8	3119.6	3087.0	3056.4	3015.5	2972.7	2983.4	2970.8
16.5°	3116.8	3117.3	3137.2	3113.1	3111.2	3076.3	3044.7	3002.0	2956.4	2969.0	2956.9
17°	3107.0	3107.0	3127.9	3102.4	3102.4	3065.7	3032.2	2988.5	2939.2	2954.1	2942.5
17.5°	3096.8	3096.3	3117.7	3091.7	3093.1	3053.6	3019.2	2973.6	2922.0	2937.8	2927.1
18°	3087.0	3085.2	3107.0	3080.1	3083.3	3041.9	3006.6	2957.3	2904.4	2921.1	2911.8
18.5°	3076.3	3073.6	3095.4	3068.0	3073.1	3028.9	2992.2	2941.5	2885.8	2902.5	2895.5
19°	3065.7	3061.5	3082.9	3055.9	3062.9	3016.4	2977.3	2924.3	2866.2	2884.4	2879.3
19.5°	3054.0	3048.9	3069.8	3043.3	3051.7	3002.9	2961.5	2906.2	2846.2	2865.3	2862.5
20°	3041.0	3035.4	3056.4	3029.9	3040.1	2988.5	2945.3	2887.6	2825.3	2845.3	2845.8
20.5°	3028.0	3021.5	3041.0	3015.5	3027.1	2973.6	2928.1	2867.2	2804.4	2823.5	2827.7
21°	3013.6	3006.6	3025.2	3001.0	3014.1	2957.8	2909.9	2846.2	2781.2	2801.6	2809.5

TEST NUMBER: P776546

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2965.7	2957.8	2972.2	2952.2	2969.4	2905.3	2850.9	2777.9	2711.0	2731.4	2752.8
23°	2948.1	2940.1	2952.2	2935.0	2952.2	2886.7	2829.5	2754.7	2686.8	2706.8	2733.3
23.5°	2928.5	2922.0	2932.2	2917.4	2934.1	2867.2	2808.1	2730.0	2662.6	2682.2	2714.2
24°	2908.5	2903.4	2911.3	2899.2	2915.5	2847.2	2785.4	2705.4	2638.0	2657.5	2694.7
24.5°	2887.6	2884.8	2890.4	2881.1	2896.0	2826.3	2763.0	2680.3	2614.3	2632.0	2674.7
25°	2865.3	2865.8	2869.0	2863.0	2875.5	2806.3	2740.3	2655.2	2590.1	2606.9	2653.8
25.5°	2843.5	2846.2	2847.2	2843.9	2854.2	2784.9	2717.5	2629.2	2565.9	2581.3	2632.4
26°	2820.7	2826.7	2824.4	2824.9	2832.8	2763.5	2694.2	2605.0	2542.2	2556.2	2610.6
26.5°	2797.4	2807.2	2802.1	2805.8	2810.5	2741.7	2670.5	2579.9	2518.1	2530.2	2588.3
27°	2773.3	2787.2	2779.3	2785.8	2786.7	2718.9	2647.3	2554.8	2493.9	2504.1	2565.5
27.5°	2748.2	2766.8	2756.1	2764.9	2763.0	2695.6	2623.6	2529.7	2469.3	2479.0	2541.8
28°	2723.1	2745.4	2732.4	2744.0	2738.4	2672.4	2599.4	2504.6	2445.1	2453.9	2518.5
28.5°	2697.5	2724.0	2708.2	2722.1	2712.8	2648.7	2575.2	2479.5	2421.8	2429.3	2494.4
29°	2671.9	2701.7	2683.6	2699.8	2687.7	2624.5	2550.1	2454.8	2398.1	2405.1	2470.2
29.5°	2646.8	2679.8	2660.3	2677.5	2662.6	2600.8	2526.0	2430.7	2374.9	2380.5	2446.0
30°	2620.8	2658.0	2636.6	2654.3	2637.1	2576.6	2501.8	2406.5	2352.1	2356.3	2421.4
30.5°	2595.7	2635.2	2612.4	2631.0	2610.6	2552.9	2477.6	2382.3	2329.8	2332.6	2397.2
31°	2570.6	2612.0	2587.8	2607.8	2585.5	2529.7	2453.9	2359.6	2307.5	2309.4	2371.6
31.5°	2546.4	2589.2	2565.0	2583.6	2560.8	2505.5	2430.2	2337.2	2284.7	2285.6	2344.7
32°	2520.4	2565.9	2541.3	2560.4	2536.2	2481.8	2407.0	2314.5	2262.4	2262.9	2316.3
32.5°	2496.7	2542.7	2518.5	2536.2	2511.1	2458.6	2383.7	2291.2	2240.6	2238.7	2287.0
33°	2471.1	2517.6	2493.9	2512.0	2486.9	2434.9	2360.0	2268.0	2216.8	2214.1	2255.4
33.5°	2444.2	2491.6	2470.2	2486.0	2460.4	2410.7	2334.9	2243.8	2192.7	2188.0	2222.9
34°	2414.9	2462.8	2444.6	2458.1	2433.5	2384.2	2309.8	2219.6	2168.5	2162.5	2190.4
34.5°	2385.6	2433.5	2417.7	2428.4	2404.6	2357.7	2283.8	2194.5	2143.4	2135.5	2156.4
35°	2355.8	2402.3	2390.2	2397.7	2374.9	2328.9	2257.3	2169.0	2118.3	2108.5	2122.5
35.5°	2325.2	2371.2	2363.3	2367.0	2344.7	2300.5	2229.9	2142.9	2092.3	2080.2	2088.6
36°	2294.5	2339.1	2335.4	2334.0	2314.9	2271.2	2200.6	2116.4	2065.3	2051.8	2053.7
36.5°	2263.3	2306.6	2306.1	2301.5	2281.5	2239.6	2170.8	2088.6	2037.4	2021.1	2018.4
37°	2229.9	2272.6	2275.0	2267.5	2249.4	2207.1	2139.7	2059.3	2008.1	1990.5	1983.0
37.5°	2196.9	2237.8	2244.7	2233.1	2215.5	2173.6	2108.1	2030.0	1977.9	1958.4	1947.2
38°	2161.5	2201.5	2211.7	2197.8	2181.1	2139.7	2075.5	1997.4	1945.8	1922.6	1910.5
38.5°	2126.7	2165.3	2177.3	2161.5	2146.7	2105.3	2039.7	1962.6	1911.4	1884.5	1871.0
39°	2092.7	2129.5	2142.9	2125.7	2112.7	2069.5	2002.6	1926.8	1873.8	1845.4	1828.2
39.5°	2056.0	2091.3	2105.8	2088.1	2076.9	2033.2	1964.9	1888.7	1834.3	1805.9	1786.4
40°	2019.3	2051.8	2065.3	2049.0	2040.7	1994.7	1925.9	1849.6	1792.9	1764.6	1744.1
40.5°	1980.2	2010.9	2024.4	2008.1	2002.6	1955.1	1885.4	1810.1	1751.5	1720.9	1700.9
41°	1943.1	1969.6	1983.0	1966.8	1964.9	1914.7	1844.0	1769.2	1709.7	1677.6	1658.1
41.5°	1902.6	1927.2	1940.3	1924.9	1925.4	1873.3	1803.1	1728.3	1666.9	1634.9	1613.9
42°	1861.7	1884.9	1898.0	1883.6	1885.4	1830.6	1761.8	1686.5	1625.1	1589.8	1569.8
42.5°	1817.5	1841.7	1855.7	1841.7	1842.6	1788.3	1719.5	1644.2	1582.3	1544.2	1524.7
43°	1775.2	1799.0	1812.9	1798.5	1799.9	1746.0	1677.2	1601.4	1540.0	1499.6	1480.5
43.5°	1729.7	1755.3	1769.2	1755.7	1753.9	1701.3	1633.5	1559.6	1497.3	1455.0	1435.4



TEST NUMBER: P776546

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1587.9	1622.3	1637.2	1624.2	1615.3	1566.5	1501.0	1430.3	1369.0	1321.1	1301.1
45.5°	1540.0	1577.7	1592.6	1581.9	1567.0	1520.0	1456.8	1389.0	1326.2	1277.4	1257.4
46°	1492.2	1533.1	1547.9	1537.2	1519.1	1472.6	1411.7	1345.7	1283.0	1233.2	1212.3
46.5°	1443.3	1487.5	1503.3	1491.2	1471.7	1426.1	1367.6	1303.4	1241.1	1190.5	1168.2
47°	1395.9	1442.0	1457.8	1444.7	1424.3	1379.7	1322.0	1260.2	1197.9	1147.7	1123.5
47.5°	1349.0	1395.0	1412.2	1400.1	1376.9	1332.7	1277.4	1217.9	1155.6	1104.0	1080.3
48°	1302.0	1349.0	1367.6	1354.6	1331.3	1285.8	1232.3	1174.7	1113.8	1062.2	1036.6
48.5°	1255.1	1303.0	1321.6	1308.5	1285.8	1238.8	1189.1	1132.8	1071.9	1021.3	993.8
49°	1210.9	1257.4	1276.9	1262.5	1240.2	1193.7	1144.4	1089.6	1029.6	979.0	951.5
49.5°	1164.9	1211.9	1231.8	1217.0	1194.7	1148.6	1100.8	1047.3	988.7	938.1	910.2
50°	1120.3	1165.8	1186.3	1170.9	1150.0	1103.5	1057.1	1004.5	947.8	897.6	868.3
50.5°	1075.2	1119.3	1141.2	1125.9	1106.8	1058.0	1013.8	962.7	907.8	858.1	828.4
51°	1032.0	1074.7	1094.7	1079.8	1062.6	1014.3	970.6	921.3	866.9	817.7	788.8
51.5°	988.3	1031.0	1050.6	1036.1	1019.4	972.0	928.3	880.4	827.9	779.1	750.7
52°	946.4	986.9	1005.9	992.4	976.6	928.8	886.5	840.0	789.3	741.0	712.6
52.5°	903.2	942.7	961.8	949.2	933.4	887.9	845.1	798.6	750.3	703.8	675.4
53°	862.3	899.5	917.6	906.0	891.6	845.6	803.3	759.1	712.1	665.7	639.2
53.5°	820.0	857.2	872.5	862.8	850.2	804.6	763.3	720.5	674.5	629.4	604.8
54°	780.5	815.3	828.8	820.0	809.3	764.2	723.8	681.9	637.3	593.6	569.9
54.5°	741.0	773.0	786.1	779.1	768.9	725.6	684.7	644.3	601.0	558.7	535.5
55°	701.5	733.5	744.7	738.2	729.8	687.0	647.1	606.6	566.2	524.3	503.0
55.5°	662.4	693.1	702.4	698.7	691.7	648.5	608.9	569.9	530.9	491.3	470.9
56°	625.2	653.6	661.9	659.2	652.2	611.3	571.8	534.6	496.9	458.8	441.1
56.5°	588.5	614.5	622.4	619.6	614.5	574.5	536.4	500.2	463.5	429.1	411.9
57°	551.3	577.3	583.4	582.5	577.3	539.2	501.1	465.3	432.8	399.3	382.6
57.5°	516.0	540.6	544.8	545.3	542.0	504.8	466.7	433.7	402.1	369.6	352.8
58°	481.6	503.9	507.6	509.5	506.2	470.9	435.6	402.6	371.4	339.8	323.5
58.5°	448.1	469.0	472.3	474.1	471.8	439.7	404.4	370.9	340.7	309.6	297.0
59°	415.6	435.1	437.4	439.3	440.2	409.1	373.3	339.3	310.1	283.1	271.5
59.5°	383.0	402.1	404.0	406.3	408.1	377.9	342.1	308.2	281.7	257.1	245.9
60°	352.4	369.6	371.9	374.2	376.5	346.8	311.4	279.8	254.7	232.0	222.7
60.5°	322.1	337.9	340.3	343.1	344.5	316.1	284.0	252.9	229.2	208.7	199.9
61°	292.9	308.2	310.1	311.9	312.8	288.2	256.1	227.3	204.1	185.9	179.0
61.5°	265.9	279.4	282.2	283.6	284.0	260.8	231.0	202.7	180.8	165.0	159.0
62°	238.5	251.9	255.2	255.7	256.6	235.2	206.9	179.0	158.5	145.0	139.9
62.5°	212.9	225.0	229.2	229.2	229.6	210.1	183.6	157.1	137.6	126.0	122.3
63°	189.2	199.9	204.1	203.6	204.5	185.9	161.3	137.1	117.1	108.8	106.0
63.5°	165.9	176.2	181.3	179.4	180.8	163.6	141.3	117.6	99.5	92.5	90.6
64°	145.0	156.2	159.0	158.0	158.5	142.2	122.3	100.4	83.2	78.1	77.6
64.5°	124.1	136.7	140.4	139.0	137.1	122.7	104.6	83.7	68.3	65.5	65.1
65°	103.7	116.7	121.8	119.9	117.6	104.6	88.3	69.3	58.6	56.2	56.2
65.5°	82.7	96.7	103.2	100.9	99.5	87.4	73.0	59.5	49.3	47.4	47.4
66°	61.8	77.2	84.6	81.8	82.7	72.1	62.3	49.3	39.5	38.6	39.0



TEST NUMBER: P776546

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	20.9	37.2	43.7	41.8	46.9	40.0	31.1	19.1	13.9	14.9	15.3
68°	17.2	27.4	32.5	31.6	36.3	29.3	20.5	13.9	8.8	10.2	10.2
68.5°	13.5	19.5	23.2	22.8	26.0	18.6	13.9	9.3	5.1	6.5	6.5
69°	9.8	16.3	15.8	15.8	15.3	12.6	9.3	6.0	3.3	4.2	4.2
69.5°	6.0	13.0	12.6	12.6	9.8	7.9	5.1	3.7	2.8	2.8	2.8
70°	2.8	9.8	9.3	9.3	6.0	4.2	3.3	2.8	2.8	2.8	2.8
70.5°	2.3	6.0	6.0	6.0	3.7	2.8	2.8	2.3	2.3	2.8	2.8
71°	2.3	2.8	3.3	3.3	2.8	2.8	2.3	2.3	2.3	2.3	2.8
71.5°	2.3	2.8	2.8	2.8	2.8	2.3	2.3	2.3	2.3	2.3	2.3
72°	2.3	2.3	2.8	2.8	2.8	2.3	2.3	2.3	2.3	2.3	2.3
72.5°	2.3	2.3	2.8	2.8	2.3	2.3	2.3	2.3	2.3	2.3	2.3
73°	2.3	2.3	2.8	2.8	2.3	2.3	2.3	1.9	2.3	2.3	2.3
73.5°	1.9	2.3	2.3	2.3	2.3	2.3	1.9	1.9	1.9	2.3	2.3
74°	1.9	2.3	2.3	2.3	2.3	2.3	1.9	1.9	1.9	1.9	2.3
74.5°	1.9	2.3	2.3	2.3	2.3	1.9	1.9	1.9	1.9	1.9	1.9
75°	1.9	1.9	2.3	2.3	2.3	1.9	1.9	1.9	1.9	1.9	1.9
75.5°	1.9	1.9	2.3	2.3	1.9	1.9	1.9	1.9	1.9	1.9	1.9
76°	1.9	1.9	1.9	2.3	1.9	1.9	1.9	1.9	1.9	1.9	1.9
76.5°	1.4	1.9	1.9	1.9	1.9	1.9	1.9	1.4	1.4	1.9	1.9
77°	1.4	1.9	1.9	1.9	1.9	1.9	1.4	1.4	1.4	1.4	1.9
77.5°	1.4	1.4	1.9	1.9	1.9	1.4	1.4	1.4	1.4	1.4	1.4
78°	1.4	1.4	1.9	1.9	1.9	1.4	1.4	1.4	1.4	1.4	1.4
78.5°	1.4	1.4	1.9	1.9	1.4	1.4	1.4	1.4	1.4	1.4	1.4
79°	1.4	1.4	1.4	1.9	1.4	1.4	1.4	1.4	1.4	1.4	1.4
79.5°	0.9	1.4	1.4	1.4	1.4	1.4	1.4	0.9	0.9	0.9	1.4
80°	0.9	1.4	1.4	1.4	1.4	1.4	1.4	0.9	0.9	0.9	1.4
80.5°	0.9	0.9	1.4	1.4	1.4	1.4	0.9	0.9	0.9	0.9	0.9
81°	0.9	0.9	1.4	1.4	1.4	0.9	0.9	0.9	0.9	0.9	0.9
81.5°	0.9	0.9	0.9	1.4	1.4	0.9	0.9	0.9	0.9	0.9	0.9
82°	0.9	0.9	0.9	1.4	0.9	0.9	0.9	0.9	0.9	0.9	0.9
82.5°	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.9
83°	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.5
83.5°	0.5	0.5	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.5	0.5
84°	0.5	0.5	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.5	0.5
84.5°	0.5	0.5	0.5	0.9	0.9	0.5	0.5	0.5	0.0	0.5	0.5
85°	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.5	0.5
85.5°	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.5
86°	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.5
86.5°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776546

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5



TEST NUMBER: P776546

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3224.6	3224.6	3224.6	3224.6	3224.6	3224.6
0.5°	3224.2	3221.8	3223.7	3225.1	3226.5	3226.0
1°	3222.3	3220.0	3222.8	3225.1	3227.4	3227.4
1.5°	3220.0	3217.7	3221.4	3225.1	3227.4	3228.4
2°	3217.7	3214.9	3219.1	3223.7	3227.0	3228.8
2.5°	3214.4	3211.6	3216.7	3221.8	3226.5	3228.8
3°	3210.7	3207.9	3213.0	3219.5	3225.6	3228.8
3.5°	3206.5	3203.7	3209.3	3216.7	3224.2	3228.8
4°	3201.4	3198.6	3205.1	3213.9	3222.3	3227.9
4.5°	3195.8	3193.5	3200.0	3210.2	3220.4	3227.0
5°	3189.8	3187.4	3194.9	3206.0	3218.6	3226.0
5.5°	3183.3	3180.9	3189.3	3201.9	3216.3	3224.2
6°	3176.3	3174.4	3183.3	3197.2	3213.5	3222.3
6.5°	3169.3	3167.5	3177.2	3192.6	3210.2	3220.9
7°	3161.9	3160.5	3171.2	3187.9	3207.4	3218.6
7.5°	3154.4	3153.0	3164.2	3182.8	3203.7	3216.7
8°	3147.0	3145.6	3157.7	3177.7	3200.5	3213.9
8.5°	3139.1	3138.2	3150.7	3172.6	3196.3	3210.7
9°	3131.2	3130.3	3143.8	3167.0	3191.6	3207.4
9.5°	3123.3	3121.9	3136.3	3160.9	3186.5	3203.7
10°	3115.4	3113.5	3128.4	3154.9	3181.4	3200.0
10.5°	3107.0	3105.2	3121.0	3148.9	3175.8	3195.3
11°	3098.7	3096.3	3113.1	3142.8	3169.8	3190.7
11.5°	3089.8	3086.6	3104.2	3136.3	3163.7	3185.6
12°	3081.0	3077.3	3095.9	3129.8	3157.7	3180.9
12.5°	3071.7	3066.6	3086.6	3122.4	3150.7	3175.4
13°	3061.9	3055.9	3076.8	3115.4	3143.3	3169.8
13.5°	3052.2	3043.8	3067.1	3107.0	3135.8	3163.3
14°	3041.0	3031.3	3055.9	3098.2	3127.5	3156.8
14.5°	3029.4	3018.2	3043.8	3088.9	3118.6	3150.3
15°	3017.3	3004.3	3031.3	3078.2	3109.4	3142.4
15.5°	3003.8	2989.4	3017.8	3067.1	3098.7	3134.5
16°	2989.9	2973.6	3003.4	3055.4	3088.0	3126.1
16.5°	2975.0	2957.3	2988.0	3042.9	3075.9	3116.8
17°	2959.7	2940.1	2972.2	3029.4	3064.3	3107.0
17.5°	2943.9	2922.5	2955.5	3015.0	3051.7	3096.8
18°	2926.7	2903.9	2938.3	3000.6	3038.7	3087.0
18.5°	2909.0	2884.8	2921.1	2984.8	3025.2	3076.3
19°	2890.4	2865.3	2902.0	2968.5	3011.7	3065.7
19.5°	2870.9	2844.4	2882.5	2951.3	2997.3	3054.0
20°	2850.4	2822.5	2862.1	2933.2	2982.4	3041.0
20.5°	2829.0	2800.7	2841.1	2914.6	2966.2	3028.0
21°	2807.2	2777.5	2819.3	2894.6	2949.0	3013.6



TEST NUMBER: P776546

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2736.5	2706.3	2750.0	2830.9	2895.1	2965.7
23°	2711.9	2681.2	2725.4	2807.7	2875.5	2948.1
23.5°	2686.8	2656.6	2701.7	2784.4	2856.0	2928.5
24°	2661.7	2632.0	2677.0	2761.2	2835.1	2908.5
24.5°	2635.7	2606.9	2652.4	2737.0	2813.7	2887.6
25°	2610.1	2581.8	2627.8	2712.4	2791.9	2865.3
25.5°	2584.5	2556.7	2603.6	2688.7	2770.9	2843.5
26°	2558.0	2532.0	2578.0	2664.5	2748.6	2820.7
26.5°	2531.5	2506.4	2553.4	2640.3	2725.9	2797.4
27°	2505.5	2481.3	2528.3	2615.2	2703.1	2773.3
27.5°	2480.0	2456.2	2503.7	2590.6	2679.8	2748.2
28°	2454.4	2432.1	2478.1	2565.5	2655.7	2723.1
28.5°	2429.3	2407.9	2454.4	2540.8	2632.0	2697.5
29°	2403.7	2382.8	2430.2	2516.2	2607.3	2671.9
29.5°	2379.1	2359.6	2406.0	2492.5	2583.1	2646.8
30°	2355.4	2336.8	2381.9	2468.3	2559.0	2620.8
30.5°	2332.1	2313.5	2359.1	2444.6	2535.7	2595.7
31°	2308.4	2290.8	2336.3	2420.9	2512.5	2570.6
31.5°	2284.3	2267.1	2312.6	2398.1	2488.3	2546.4
32°	2261.0	2244.3	2289.4	2373.5	2464.1	2520.4
32.5°	2237.3	2221.0	2266.1	2350.3	2440.4	2496.7
33°	2211.7	2196.4	2241.9	2326.1	2416.3	2471.1
33.5°	2185.7	2171.8	2216.8	2300.1	2390.2	2444.2
34°	2159.7	2145.7	2191.7	2273.6	2362.3	2414.9
34.5°	2133.2	2120.2	2165.3	2246.6	2333.1	2385.6
35°	2105.3	2094.1	2138.8	2218.7	2303.8	2355.8
35.5°	2077.9	2067.6	2112.3	2190.8	2273.6	2325.2
36°	2048.1	2039.3	2085.3	2161.5	2242.9	2294.5
36.5°	2017.9	2010.5	2056.9	2132.7	2210.8	2263.3
37°	1985.4	1980.7	2026.7	2101.6	2177.8	2229.9
37.5°	1953.7	1950.5	1996.5	2068.6	2143.4	2196.9
38°	1919.3	1918.0	1964.9	2035.6	2108.5	2161.5
38.5°	1881.7	1883.1	1931.0	2001.6	2073.7	2126.7
39°	1842.6	1846.4	1894.7	1964.9	2037.4	2092.7
39.5°	1803.1	1807.3	1856.1	1925.9	2000.7	2056.0
40°	1759.9	1766.4	1816.2	1885.4	1962.1	2019.3
40.5°	1716.7	1724.1	1775.7	1845.0	1922.6	1980.2
41°	1672.5	1680.9	1734.3	1803.6	1880.8	1943.1
41.5°	1628.8	1636.7	1691.6	1762.2	1838.0	1902.6
42°	1583.7	1594.9	1650.2	1719.9	1797.1	1861.7
42.5°	1538.6	1550.7	1607.4	1676.7	1754.3	1817.5
43°	1493.5	1508.0	1565.1	1633.5	1711.1	1775.2
43.5°	1449.9	1462.4	1521.9	1589.8	1665.5	1729.7



TEST NUMBER: P776546

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1312.3	1332.7	1392.7	1456.8	1530.3	1587.9
45.5°	1269.0	1288.6	1349.9	1412.7	1484.3	1540.0
46°	1223.5	1245.8	1307.6	1368.5	1437.8	1492.2
46.5°	1179.3	1202.6	1263.9	1322.5	1390.4	1443.3
47°	1135.6	1159.8	1221.1	1278.3	1343.9	1395.9
47.5°	1093.3	1115.6	1177.5	1233.7	1297.4	1349.0
48°	1050.1	1073.8	1134.2	1189.5	1250.9	1302.0
48.5°	1008.2	1031.0	1090.5	1144.4	1203.9	1255.1
49°	965.9	989.7	1047.8	1102.1	1158.9	1210.9
49.5°	926.9	948.3	1005.0	1057.5	1113.3	1164.9
50°	884.6	906.9	962.7	1013.8	1068.2	1120.3
50.5°	844.6	865.5	919.5	970.6	1022.7	1075.2
51°	804.6	825.6	878.6	928.3	979.0	1032.0
51.5°	765.6	786.1	837.2	885.5	935.7	988.3
52°	727.9	747.5	796.7	844.6	893.9	946.4
52.5°	689.8	709.4	755.8	802.8	851.1	903.2
53°	652.6	670.8	716.8	761.9	810.2	862.3
53.5°	616.4	633.6	677.7	720.5	769.8	820.0
54°	581.1	597.3	639.2	681.5	729.8	780.5
54.5°	545.7	562.0	602.0	643.3	691.2	741.0
55°	512.3	527.1	565.3	604.3	652.6	701.5
55.5°	479.3	492.3	528.5	566.2	615.5	662.4
56°	447.2	459.3	493.2	530.9	578.7	625.2
56.5°	417.0	426.7	458.8	495.5	543.4	588.5
57°	387.2	395.1	425.3	460.7	508.5	551.3
57.5°	357.5	363.5	391.9	426.7	473.7	516.0
58°	327.7	334.7	361.6	394.2	441.1	481.6
58.5°	300.3	305.4	330.5	363.0	410.0	448.1
59°	273.8	277.5	301.2	332.8	378.8	415.6
59.5°	248.2	251.0	272.9	304.0	349.1	383.0
60°	224.1	225.0	245.9	275.2	320.3	352.4
60.5°	201.3	200.8	220.3	249.6	291.5	322.1
61°	179.0	177.1	195.7	224.1	264.0	292.9
61.5°	158.5	157.6	172.5	200.3	238.5	265.9
62°	139.0	139.0	154.3	177.1	213.4	238.5
62.5°	120.9	120.4	135.7	158.0	189.2	212.9
63°	104.6	101.8	117.6	139.9	166.9	189.2
63.5°	89.3	82.7	99.0	121.8	148.3	165.9
64°	75.8	68.8	80.9	103.7	130.2	145.0
64.5°	63.7	57.2	66.9	85.5	112.0	124.1
65°	55.3	46.5	54.9	71.6	93.4	103.7
65.5°	46.5	37.7	44.2	58.6	75.3	82.7
66°	37.7	29.8	34.9	46.9	60.9	61.8



TEST NUMBER: P776546

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	14.9	13.9	15.3	20.9	27.4	20.9
68°	10.2	10.7	12.1	14.9	19.5	17.2
68.5°	6.5	7.4	8.8	11.6	15.8	13.5
69°	4.2	3.7	6.0	8.4	12.6	9.8
69.5°	2.8	2.8	2.8	5.6	9.3	6.0
70°	2.8	2.3	2.3	2.3	5.6	2.8
70.5°	2.8	2.3	2.3	2.3	2.3	2.3
71°	2.3	2.3	2.3	2.3	2.3	2.3
71.5°	2.3	2.3	2.3	2.3	2.3	2.3
72°	2.3	2.3	1.9	1.9	2.3	2.3
72.5°	2.3	2.3	1.9	1.9	1.9	2.3
73°	2.3	1.9	1.9	1.9	1.9	2.3
73.5°	2.3	1.9	1.9	1.9	1.9	1.9
74°	1.9	1.9	1.9	1.9	1.9	1.9
74.5°	1.9	1.9	1.9	1.9	1.9	1.9
75°	1.9	1.9	1.9	1.9	1.9	1.9
75.5°	1.9	1.9	1.4	1.4	1.4	1.9
76°	1.9	1.9	1.4	1.4	1.4	1.9
76.5°	1.9	1.4	1.4	1.4	1.4	1.4
77°	1.9	1.4	1.4	1.4	1.4	1.4
77.5°	1.4	1.4	1.4	1.4	1.4	1.4
78°	1.4	1.4	1.4	1.4	1.4	1.4
78.5°	1.4	1.4	1.4	1.4	1.4	1.4
79°	1.4	1.4	1.4	0.9	0.9	1.4
79.5°	1.4	1.4	0.9	0.9	0.9	0.9
80°	1.4	0.9	0.9	0.9	0.9	0.9
80.5°	0.9	0.9	0.9	0.9	0.9	0.9
81°	0.9	0.9	0.9	0.9	0.9	0.9
81.5°	0.9	0.9	0.9	0.9	0.9	0.9
82°	0.9	0.9	0.9	0.9	0.5	0.9
82.5°	0.9	0.9	0.9	0.5	0.5	0.5
83°	0.9	0.9	0.5	0.5	0.5	0.5
83.5°	0.5	0.5	0.5	0.5	0.5	0.5
84°	0.5	0.5	0.5	0.5	0.5	0.5
84.5°	0.5	0.5	0.5	0.5	0.5	0.5
85°	0.5	0.5	0.5	0.5	0.5	0.0
85.5°	0.5	0.5	0.5	0.5	0.0	0.0
86°	0.5	0.5	0.5	0.5	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776546

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.5	0.5	0.0	0.0	0.0	0.0

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

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

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

Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270° - · - 135°-315°

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

Scaled Data Report



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

Scaled Data Report





21.5°	2998.3	2990.8	3008.0	2985.2	3000.1	2941.1	2890.9	2824.4	2757.9	2778.4	2790.9
22°	2982.9	2974.5	2990.4	2969.4	2985.2	2923.9	2871.8	2801.6	2734.7	2755.1	2772.3



44°	1683.2	1711.6	1725.5	1712.5	1709.7	1655.8	1588.8	1515.9	1453.6	1409.9	1390.8
44.5°	1633.5	1667.4	1681.3	1669.3	1660.9	1610.7	1545.1	1473.6	1411.3	1364.8	1346.2



66.5°	46.0	61.8	69.3	66.9	67.9	61.4	52.1	39.0	29.8	29.3	30.2
67°	31.6	48.8	55.8	53.5	57.2	50.7	41.4	29.3	20.5	20.5	21.4



89°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
89.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5

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

Scaled Data Report





21.5°	2784.4	2754.7	2797.0	2873.7	2931.8	2998.3
22°	2760.3	2730.0	2773.7	2852.8	2913.7	2982.9



44°	1402.0	1419.2	1478.2	1546.1	1620.9	1683.2
44.5°	1356.9	1375.5	1435.4	1501.5	1576.3	1633.5

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

Scaled Data Report



66.5°	28.8	23.2	27.0	37.2	47.9	46.0
67°	20.5	17.7	20.5	28.4	36.7	31.6

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

Scaled Data Report



89°	0.5	0.5	0.0	0.0	0.0	0.0
89.5°	0.5	0.5	0.0	0.0	0.0	0.0

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

Scaled Data Report



(END OF REPORT)