

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: P776782

Luminaire Tested: HCDJBS4050CSD-HCD82TRH-HCD82TRLWW-5000lm-3500K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776782
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B068)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD82TRH-HCD82TRLWW-5000lm-3500K
Description: 8 INCH ROUND NARROW LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5251.2 lumens
Efficiency: N/A
Efficacy: 109.4 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.08 / 1.13
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

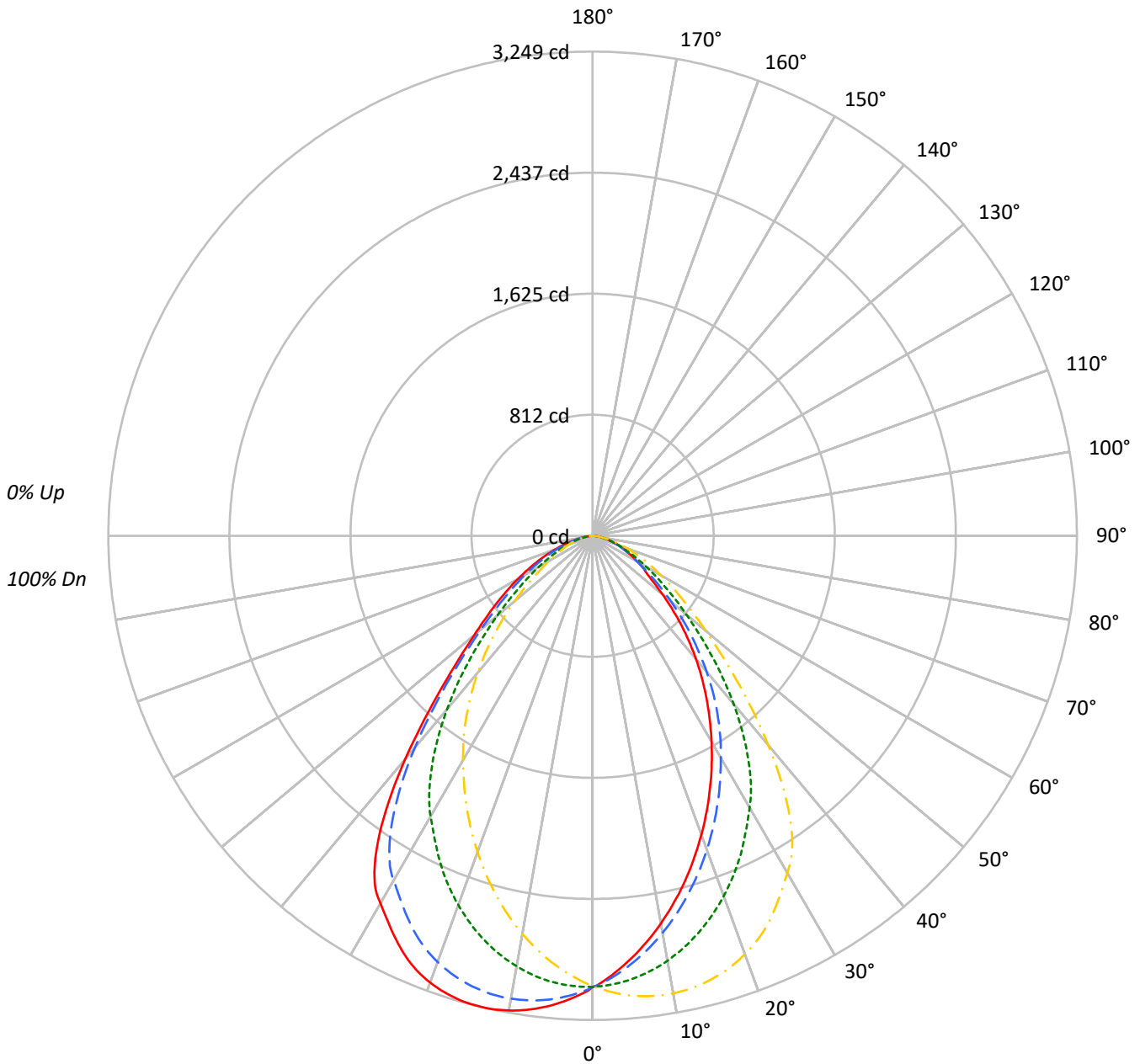
Input Watts (W): 48
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					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	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89								
2	103	96	91	86	101	95	90	85	91	87	83	88	85	82	85	82	80	78								
3	96	87	80	75	93	85	79	74	83	77	73	80	75	72	78	74	71	69								
4	89	79	71	66	87	77	71	65	75	69	64	73	68	64	71	66	63	61								
5	83	72	64	58	81	71	63	58	69	62	57	67	61	57	65	60	56	54								
6	77	66	58	52	75	65	57	52	63	56	52	61	56	51	60	55	51	49								
7	72	60	52	47	71	59	52	47	58	51	47	57	51	46	55	50	46	44								
8	68	56	48	43	66	55	48	43	54	47	42	52	47	42	51	46	42	40								
9	64	51	44	39	62	51	44	39	50	43	39	49	43	39	48	42	39	37								
10	60	48	41	36	59	47	41	36	46	40	36	46	40	36	45	39	35	34								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	92467	92467	92467	92467
5°	87558	91548	96939	92186
10°	81874	89755	100283	90970
15°	75753	87069	102572	88766
20°	69362	83583	103658	85636
25°	62812	79274	102774	81498
30°	56254	74279	100387	76658
35°	49630	67754	93702	69968
40°	42995	58558	77903	60591
45°	36005	48327	61159	49916
50°	29058	38871	49287	39721
55°	23825	31357	41576	31559
60°	21225	25377	35281	25432
65°	18335	20516	29510	20408
70°	15871	16380	23834	16255
75°	13636	13023	18142	12858
80°	11270	10444	11692	10039
85°	7917	7917	3468	7286

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 180°
 Vertical Angle: 45°
 Luminance: 61159 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	284.1	5.4
10°-20°	787.3	15.0
20°-30°	1112.4	21.2
30°-40°	1169.4	22.3
40°-50°	881.7	16.8
50°-60°	546.5	10.4
60°-70°	307.3	5.9
70°-80°	135.7	2.6
80°-90°	26.9	0.5
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°	2183.8	41.6
0°-40°	3353.1	63.9
0°-60°	4781.3	91.1
0°-90°	5251.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5251.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3029	3029	3029	3029	3029	
5°	2857	2987	3163	3008	2857	266
15°	2397	2755	3245	2808	2397	671
25°	1865	2353	3051	2419	1865	855
35°	1332	1818	2514	1877	1332	831
45°	834	1119	1416	1156	834	644
55°	448	589	781	593	448	411
65°	254	284	408	282	254	254
75°	116	110	154	109	116	124
85°	23	23	10	21	23	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	3028.7	3028.7	3028.7	3028.7	3028.7	3028.7	3028.7	3028.7	3028.7	3028.7	3028.7
0.5°	3018.8	3020.2	3019.8	3019.8	3024.5	3027.8	3031.1	3046.6	3049.9	3049.9	3043.3
1°	3002.8	3005.1	3007.5	3012.2	3022.6	3032.0	3040.5	3059.8	3064.1	3063.6	3053.7
1.5°	2986.3	2989.1	2994.8	3004.2	3020.2	3035.8	3049.9	3072.6	3078.7	3077.3	3064.6
2°	2968.8	2972.6	2981.1	2995.2	3017.4	3039.1	3058.4	3084.4	3092.4	3090.0	3074.0
2.5°	2951.4	2955.6	2967.4	2985.8	3013.6	3041.5	3066.0	3095.7	3105.1	3102.3	3083.9
3°	2933.4	2938.6	2952.3	2976.4	3009.4	3043.3	3073.5	3106.1	3118.3	3114.1	3091.9
3.5°	2915.0	2921.2	2938.2	2966.0	3005.1	3044.8	3080.6	3116.9	3130.1	3125.4	3099.9
4°	2896.2	2902.8	2922.6	2955.6	2999.5	3045.7	3086.7	3126.4	3141.5	3136.3	3107.5
4.5°	2876.8	2883.9	2906.6	2944.3	2993.8	3046.2	3092.9	3135.8	3152.3	3146.2	3115.0
5°	2857.0	2865.5	2890.0	2932.5	2987.2	3045.7	3097.6	3144.3	3163.1	3156.1	3121.2
5.5°	2837.2	2846.2	2874.0	2920.2	2980.6	3045.2	3102.3	3152.3	3173.1	3165.0	3127.3
6°	2816.9	2825.9	2856.6	2907.0	2973.1	3043.3	3106.5	3159.8	3182.0	3173.5	3132.5
6.5°	2796.2	2805.6	2839.1	2893.8	2965.0	3041.5	3109.8	3166.5	3190.5	3181.5	3137.7
7°	2774.5	2785.3	2820.7	2880.1	2957.0	3039.1	3112.7	3173.1	3199.0	3188.6	3141.5
7.5°	2753.7	2765.0	2802.8	2866.0	2947.6	3036.3	3115.0	3178.7	3206.5	3195.7	3145.2
8°	2731.6	2743.3	2783.9	2851.4	2938.2	3032.0	3116.9	3183.9	3213.6	3201.8	3148.1
8.5°	2709.4	2722.1	2765.0	2836.3	2928.2	3028.2	3117.9	3188.1	3219.8	3207.5	3150.4
9°	2686.3	2700.0	2744.8	2820.7	2917.4	3023.5	3118.3	3192.4	3225.4	3212.2	3152.8
9.5°	2664.1	2677.8	2725.4	2804.7	2906.6	3018.3	3118.3	3195.7	3230.6	3216.5	3153.7
10°	2641.0	2655.1	2705.1	2787.7	2895.2	3012.2	3117.9	3198.1	3234.8	3220.2	3154.7
10.5°	2617.4	2632.5	2684.4	2771.6	2883.0	3005.6	3116.9	3200.4	3238.6	3223.5	3154.7
11°	2593.8	2609.4	2663.2	2754.2	2870.2	2999.0	3115.0	3201.8	3241.9	3225.9	3154.2
11.5°	2570.2	2586.3	2642.4	2736.3	2857.5	2991.5	3113.2	3202.8	3244.8	3228.2	3152.8
12°	2546.2	2562.2	2620.7	2717.9	2844.3	2983.9	3110.3	3202.8	3246.6	3229.2	3151.4
12.5°	2521.2	2538.6	2598.5	2700.0	2830.1	2975.4	3106.5	3202.8	3248.1	3230.1	3149.0
13°	2496.2	2514.1	2576.4	2680.6	2816.0	2966.5	3102.8	3201.8	3249.0	3230.1	3146.2
13.5°	2472.1	2489.6	2554.2	2662.2	2801.8	2957.0	3098.1	3200.4	3249.0	3229.7	3142.9
14°	2447.1	2465.5	2531.6	2642.4	2785.8	2947.1	3092.9	3198.1	3248.5	3228.2	3138.6
14.5°	2421.7	2440.5	2508.4	2622.6	2770.2	2936.3	3087.2	3195.7	3247.1	3226.4	3133.9
15°	2396.7	2416.0	2484.9	2602.3	2754.7	2925.4	3081.1	3191.9	3245.2	3224.0	3128.7
15.5°	2370.2	2390.5	2461.3	2581.6	2738.2	2913.6	3074.0	3188.1	3242.9	3221.2	3123.1
16°	2344.8	2365.1	2437.7	2560.8	2721.2	2901.8	3066.9	3183.4	3239.6	3217.4	3116.5
16.5°	2318.8	2339.6	2414.1	2540.0	2703.7	2889.1	3058.9	3178.2	3236.3	3213.1	3109.4
17°	2292.9	2314.6	2390.5	2518.3	2686.3	2876.4	3050.4	3172.6	3231.5	3208.0	3101.8
17.5°	2266.5	2288.6	2365.5	2497.1	2668.3	2863.2	3041.5	3166.0	3226.4	3202.3	3093.3
18°	2240.1	2262.7	2341.5	2474.5	2650.0	2849.0	3032.0	3158.9	3220.7	3195.7	3084.8
18.5°	2213.6	2236.3	2316.5	2452.8	2630.6	2834.9	3021.6	3150.9	3214.1	3188.6	3075.4
19°	2187.7	2210.3	2291.9	2430.1	2611.7	2819.8	3010.8	3142.4	3207.0	3181.1	3065.0
19.5°	2160.3	2183.9	2266.9	2407.5	2592.4	2804.7	2999.5	3133.4	3199.5	3172.6	3054.2
20°	2134.9	2158.0	2241.5	2384.9	2572.6	2788.6	2987.7	3123.5	3190.5	3162.7	3042.9
20.5°	2107.5	2132.0	2216.5	2361.3	2551.8	2772.6	2975.4	3113.2	3181.1	3152.8	3031.1
21°	2081.1	2105.6	2191.0	2337.7	2531.6	2755.6	2961.7	3101.8	3170.7	3142.4	3017.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2000.0	2025.4	2114.1	2266.5	2467.9	2701.8	2918.8	3062.7	3133.9	3104.2	2974.5
23°	1973.1	1999.0	2088.2	2241.9	2445.7	2683.0	2902.8	3047.6	3119.8	3089.6	2958.4
23.5°	1946.2	1971.7	2061.8	2217.4	2423.1	2663.6	2885.8	3032.0	3104.2	3074.0	2941.5
24°	1919.3	1945.2	2036.8	2192.9	2400.4	2643.3	2868.3	3014.1	3087.7	3056.5	2923.1
24.5°	1891.9	1918.4	2009.9	2167.9	2377.3	2622.1	2849.5	2995.7	3069.8	3038.6	2903.7
25°	1864.6	1891.5	1983.9	2142.4	2353.3	2600.4	2829.7	2976.4	3050.9	3019.3	2883.4
25.5°	1837.7	1864.1	1957.5	2116.9	2328.3	2577.3	2808.9	2957.0	3031.5	3000.4	2862.7
26°	1810.8	1838.2	1931.1	2091.5	2304.2	2554.2	2787.7	2935.8	3011.7	2979.2	2841.0
26.5°	1783.9	1811.3	1904.7	2066.0	2278.7	2530.1	2765.5	2914.6	2991.5	2958.9	2819.8
27°	1757.5	1784.4	1878.7	2040.1	2253.3	2507.0	2743.8	2893.8	2970.7	2938.6	2797.6
27.5°	1730.2	1757.5	1852.3	2013.6	2228.7	2483.4	2721.6	2873.5	2949.9	2917.4	2775.9
28°	1702.8	1731.1	1825.4	1987.7	2203.7	2459.9	2700.0	2851.8	2928.7	2896.2	2754.2
28.5°	1675.4	1703.7	1799.0	1961.8	2179.2	2435.8	2676.8	2831.1	2908.4	2875.9	2733.0
29°	1649.0	1677.3	1773.6	1936.3	2154.7	2412.7	2655.1	2809.9	2887.2	2854.7	2710.8
29.5°	1622.6	1650.4	1747.1	1910.8	2130.6	2389.6	2633.0	2789.6	2866.9	2833.9	2689.6
30°	1595.7	1624.0	1720.7	1886.3	2107.0	2366.9	2611.7	2769.8	2847.6	2814.6	2669.8
30.5°	1568.4	1597.6	1694.8	1860.8	2082.5	2344.3	2591.0	2750.9	2829.2	2796.2	2650.0
31°	1542.0	1571.2	1669.8	1836.3	2058.5	2322.1	2571.2	2730.1	2808.9	2774.9	2627.3
31.5°	1515.5	1544.8	1644.3	1810.3	2032.0	2296.7	2547.6	2704.7	2784.9	2750.4	2601.4
32°	1489.1	1518.8	1618.4	1784.9	2004.7	2269.8	2521.2	2675.4	2756.6	2721.6	2571.2
32.5°	1461.8	1492.0	1592.9	1757.5	1975.4	2239.1	2491.5	2644.3	2724.5	2689.1	2539.1
33°	1435.8	1466.5	1566.5	1731.1	1945.7	2208.0	2459.4	2608.0	2688.2	2653.3	2504.7
33.5°	1410.4	1441.0	1541.0	1702.8	1914.1	2174.0	2424.0	2569.8	2649.0	2614.6	2466.9
34°	1383.9	1415.1	1514.1	1673.6	1882.5	2139.6	2387.2	2527.3	2606.6	2573.5	2428.3
34.5°	1358.0	1389.6	1487.2	1644.8	1850.4	2103.7	2347.6	2483.9	2561.7	2529.7	2387.7
35°	1331.6	1363.7	1460.4	1616.0	1817.9	2066.0	2307.0	2436.3	2514.1	2482.5	2346.2
35.5°	1305.6	1337.7	1433.5	1586.3	1783.9	2028.7	2263.6	2387.7	2463.6	2435.3	2302.3
36°	1280.6	1311.8	1406.6	1556.6	1750.4	1990.5	2220.2	2336.7	2411.3	2384.9	2256.1
36.5°	1254.7	1286.3	1379.7	1526.4	1715.5	1950.9	2175.9	2285.8	2357.5	2332.5	2208.9
37°	1229.7	1260.8	1352.8	1497.1	1681.1	1910.3	2127.8	2231.1	2302.3	2278.7	2161.3
37.5°	1203.8	1234.9	1325.0	1467.0	1646.2	1870.2	2080.6	2176.4	2246.2	2223.1	2111.8
38°	1178.8	1209.4	1298.1	1436.3	1610.3	1828.7	2031.1	2121.7	2189.1	2167.4	2061.8
38.5°	1153.3	1183.0	1270.7	1405.2	1575.4	1788.2	1982.0	2068.8	2131.6	2111.3	2010.3
39°	1128.3	1158.0	1243.4	1375.0	1541.5	1746.2	1933.0	2011.3	2072.1	2054.2	1958.9
39.5°	1103.8	1132.5	1216.5	1344.8	1505.6	1703.7	1883.0	1956.1	2013.2	1995.7	1907.0
40°	1078.8	1107.1	1188.2	1314.1	1469.3	1661.3	1833.0	1899.5	1954.7	1938.2	1854.7
40.5°	1053.8	1081.6	1161.3	1282.5	1433.9	1619.3	1782.0	1845.7	1895.7	1881.1	1801.9
41°	1029.2	1056.6	1133.9	1252.3	1398.1	1576.9	1733.0	1790.1	1839.1	1824.5	1750.0
41.5°	1004.2	1031.6	1107.5	1222.1	1363.2	1533.9	1683.9	1734.9	1780.6	1767.9	1698.1
42°	979.2	1006.6	1080.6	1192.0	1327.3	1492.0	1635.3	1682.0	1725.4	1711.8	1647.1
42.5°	955.2	982.1	1053.8	1162.7	1292.0	1450.0	1587.7	1630.2	1670.3	1657.0	1596.7
43°	930.6	957.5	1028.3	1133.0	1257.1	1409.4	1539.6	1579.2	1616.5	1604.7	1546.7
43.5°	906.6	933.0	1002.3	1103.8	1221.7	1368.4	1492.9	1529.2	1563.7	1551.4	1497.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	833.9	860.8	925.5	1017.0	1119.3	1249.0	1359.4	1387.2	1416.5	1405.6	1358.5
45.5°	810.4	836.3	900.5	989.1	1086.3	1211.3	1317.0	1343.4	1370.7	1358.9	1313.7
46°	787.2	813.2	875.5	961.8	1053.8	1174.5	1275.9	1300.4	1326.9	1315.5	1270.3
46.5°	764.6	790.6	851.9	934.4	1022.2	1137.2	1235.8	1258.5	1284.4	1272.6	1228.3
47°	741.5	767.0	826.9	906.1	990.5	1100.9	1196.7	1219.8	1244.3	1232.1	1189.1
47.5°	718.9	745.3	802.8	880.6	959.9	1066.5	1158.9	1182.1	1206.6	1193.4	1150.5
48°	696.7	723.1	779.2	853.8	930.6	1033.9	1122.6	1145.7	1169.8	1157.1	1113.2
48.5°	675.0	701.4	755.6	827.8	902.3	1000.9	1088.2	1110.8	1133.9	1120.7	1076.9
49°	652.8	680.6	733.0	802.3	873.6	968.4	1053.8	1077.8	1101.4	1087.7	1043.4
49.5°	633.0	659.9	709.9	777.8	845.3	938.7	1021.7	1045.3	1068.8	1053.8	1009.4
50°	611.8	639.1	687.7	752.8	818.4	908.9	990.1	1014.6	1037.7	1023.1	977.8
50.5°	591.5	619.8	665.6	728.3	792.4	879.7	958.9	984.4	1007.5	992.4	947.2
51°	572.2	599.5	644.3	704.7	767.0	851.4	929.7	956.1	978.8	963.2	917.9
51.5°	553.8	580.6	623.1	682.1	742.4	824.5	901.9	928.3	951.4	935.8	889.6
52°	535.4	561.3	601.9	659.9	718.4	798.1	874.0	902.3	924.5	908.5	862.2
52.5°	517.9	543.4	582.1	637.7	695.3	773.6	847.6	875.9	899.0	882.1	835.4
53°	501.9	525.5	562.3	616.0	672.6	748.6	821.7	851.4	874.0	857.1	809.9
53.5°	486.3	508.0	542.9	595.3	650.9	724.5	797.2	827.3	850.0	832.5	784.9
54°	472.2	491.0	524.0	575.0	629.7	700.9	773.1	803.8	826.9	808.9	761.8
54.5°	459.4	475.0	505.7	556.1	609.4	679.2	749.5	781.1	803.8	785.8	738.7
55°	447.6	459.9	488.2	536.8	589.1	657.1	727.3	758.9	781.1	763.7	716.0
55.5°	436.8	444.8	471.2	518.9	569.8	635.8	705.6	737.3	759.4	742.0	694.3
56°	426.9	431.1	454.7	500.5	550.5	615.6	683.9	716.5	737.7	721.2	673.1
56.5°	419.3	417.9	439.1	483.5	532.1	595.3	663.2	695.7	716.5	699.5	652.3
57°	410.4	405.7	423.6	466.5	513.7	575.5	642.9	675.5	695.7	679.2	632.5
57.5°	400.0	394.3	409.0	450.0	496.2	556.6	623.1	656.1	675.5	659.9	613.2
58°	389.6	384.9	394.8	434.0	479.2	538.7	603.8	636.3	655.2	640.6	594.3
58.5°	379.2	375.5	381.1	418.9	462.7	520.7	585.4	617.0	634.9	620.7	575.0
59°	368.9	366.0	367.9	403.8	446.7	503.3	566.5	598.1	615.6	601.4	557.1
59.5°	358.0	356.1	355.7	389.1	431.1	486.3	548.6	579.2	596.2	582.5	539.1
60°	347.6	346.7	343.4	375.0	415.6	469.8	531.1	561.3	577.8	564.6	521.7
60.5°	337.3	336.8	332.1	361.3	401.4	454.2	513.2	543.4	559.0	546.2	504.7
61°	327.4	326.9	320.7	347.6	387.3	438.2	496.2	525.9	541.0	528.8	487.7
61.5°	317.4	317.4	309.9	334.9	372.6	422.6	479.7	508.5	523.1	511.8	471.7
62°	308.0	308.0	300.0	322.2	358.5	408.5	464.1	491.5	505.7	495.3	455.7
62.5°	298.1	298.6	290.1	309.9	345.7	393.9	448.1	474.5	488.7	477.3	440.1
63°	289.1	289.6	280.7	298.1	332.5	379.7	432.5	458.5	471.7	461.3	425.0
63.5°	279.7	280.7	271.7	286.8	319.8	365.6	417.4	442.9	455.2	445.3	410.4
64°	271.2	271.7	263.7	275.9	307.5	351.4	402.8	426.9	439.1	429.7	395.7
64.5°	262.3	263.2	255.7	265.6	295.3	338.2	388.2	412.3	423.6	414.6	381.6
65°	253.8	255.2	248.1	255.2	284.0	325.5	373.6	397.6	408.5	400.0	367.0
65.5°	245.8	246.7	240.6	245.3	272.6	312.7	359.4	383.0	393.4	385.4	352.4
66°	237.3	238.7	233.0	235.8	261.3	300.0	346.2	368.4	378.8	370.7	339.1



TEST NUMBER: P776782

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-HCD82TRLWW-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	213.7	215.6	210.8	209.0	230.2	265.1	307.1	325.9	334.0	327.8	300.0
68°	206.6	208.0	204.2	200.9	219.8	253.8	294.3	312.3	319.8	314.1	287.3
68.5°	199.1	200.5	197.2	192.9	210.4	242.9	281.6	299.5	306.6	301.4	275.5
69°	192.0	193.4	190.1	185.4	201.4	232.1	269.8	286.3	292.9	288.2	263.2
69.5°	184.4	186.3	183.5	177.8	192.4	222.2	258.0	274.1	280.2	275.5	251.9
70°	177.8	179.2	176.9	170.3	183.5	212.3	246.7	261.8	267.0	263.2	240.6
70.5°	170.8	172.6	169.8	163.7	175.5	202.4	235.4	250.0	254.7	251.9	229.7
71°	164.1	166.0	163.7	157.5	167.0	192.9	225.0	238.2	242.4	239.6	218.4
71.5°	158.0	159.9	158.0	151.4	159.4	183.5	214.1	227.4	230.7	228.3	208.0
72°	151.9	153.8	151.9	145.3	151.4	174.5	203.8	215.6	218.4	217.0	197.6
72.5°	145.3	147.2	146.2	138.7	143.9	166.0	193.4	205.2	207.1	205.7	187.3
73°	139.1	141.0	140.1	133.0	136.8	157.5	183.5	194.3	195.8	195.3	177.4
73.5°	133.0	134.9	134.0	127.4	129.7	149.1	173.6	184.0	184.9	184.9	168.4
74°	127.4	128.8	128.3	122.2	123.1	141.0	164.6	174.1	174.5	175.0	159.0
74.5°	121.2	123.1	122.6	116.5	116.5	133.5	155.2	164.6	163.7	165.1	149.5
75°	115.6	117.5	117.5	111.3	110.4	125.9	146.2	154.7	153.8	155.2	141.0
75.5°	109.9	111.8	111.8	106.6	104.7	118.9	137.7	145.8	143.9	146.2	132.5
76°	104.7	106.1	106.6	101.4	98.6	111.8	129.2	136.8	134.0	137.3	124.1
76.5°	99.1	100.9	101.4	96.7	93.4	104.7	121.2	127.8	124.5	128.3	116.0
77°	93.9	95.3	96.2	92.0	87.7	98.6	113.7	119.3	115.6	119.8	108.5
77.5°	88.7	90.1	91.0	87.3	82.5	92.0	105.7	111.3	106.6	111.8	100.9
78°	83.5	85.4	86.3	82.5	77.8	86.3	98.6	103.3	98.1	103.8	93.4
78.5°	78.8	80.2	81.1	78.3	72.6	80.2	91.5	95.8	89.6	95.8	86.8
79°	73.6	75.5	76.4	73.6	68.4	74.5	84.4	88.2	81.6	88.7	79.7
79.5°	68.9	70.8	71.7	69.3	63.7	69.3	77.8	81.1	74.1	81.1	73.6
80°	64.1	65.6	67.0	65.1	59.4	64.1	71.2	74.1	66.5	74.5	67.0
80.5°	59.9	60.8	62.7	60.8	55.2	59.0	65.6	67.0	59.4	67.5	60.8
81°	55.2	56.6	58.5	57.1	50.9	54.2	59.4	60.4	52.4	60.8	55.2
81.5°	50.9	52.4	54.2	52.8	47.2	49.5	53.8	53.8	46.2	54.7	49.5
82°	46.7	47.6	50.0	49.1	43.4	44.8	48.6	48.1	40.1	49.1	44.8
82.5°	42.5	43.4	45.8	44.8	39.6	41.0	43.9	42.5	34.4	43.4	40.1
83°	38.2	39.6	42.0	41.0	36.3	37.3	39.2	36.8	28.3	37.7	34.9
83.5°	34.0	35.4	37.7	37.7	33.0	33.0	34.4	31.1	22.2	32.1	30.2
84°	30.2	31.1	34.0	34.0	29.2	29.2	29.7	25.5	17.5	26.4	25.5
84.5°	26.4	27.4	30.2	30.2	25.9	25.5	25.0	20.3	13.2	20.8	21.7
85°	22.6	23.6	26.4	26.9	22.6	22.2	21.2	16.0	9.9	16.0	17.9
85.5°	18.9	19.3	23.1	23.1	19.3	18.9	17.9	12.7	7.5	12.7	14.6
86°	16.0	17.0	19.8	19.8	16.5	15.6	14.6	9.4	6.1	9.4	11.3
86.5°	13.2	14.2	16.5	17.0	13.7	12.7	11.3	6.6	4.7	6.6	8.5
87°	10.4	11.3	13.7	13.7	10.8	9.9	8.5	4.2	3.3	4.2	6.1
87.5°	7.5	8.5	10.8	10.8	8.0	7.1	6.1	2.4	2.4	2.4	3.8
88°	5.2	6.1	8.0	7.5	5.7	4.7	3.8	0.9	0.9	0.9	1.9
88.5°	3.3	3.8	4.7	4.7	2.8	2.4	1.9	0.5	0.5	0.5	0.5



TEST NUMBER: P776782

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-HCD82TRLWW-5000lm-3500K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776782

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-HCD82TRLWW-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3028.7	3028.7	3028.7	3028.7	3028.7	3028.7
0.5°	3033.4	3026.8	3017.9	3009.9	3019.3	3018.8
1°	3039.1	3026.8	3011.7	2999.0	3004.7	3002.8
1.5°	3044.3	3026.8	3005.1	2987.2	2989.6	2986.3
2°	3049.5	3025.4	2998.1	2974.5	2974.0	2968.8
2.5°	3053.7	3024.0	2990.0	2961.3	2958.0	2951.4
3°	3057.5	3021.6	2982.0	2948.5	2941.5	2933.4
3.5°	3060.3	3018.8	2973.1	2934.9	2924.9	2915.0
4°	3063.2	3016.0	2964.1	2920.7	2907.5	2896.2
4.5°	3065.0	3012.2	2954.2	2905.6	2889.6	2876.8
5°	3066.0	3008.0	2944.3	2890.0	2871.6	2857.0
5.5°	3066.9	3003.2	2933.0	2874.5	2852.8	2837.2
6°	3067.4	2997.6	2922.1	2858.4	2833.9	2816.9
6.5°	3066.9	2991.5	2910.3	2841.5	2814.6	2796.2
7°	3066.0	2985.3	2897.6	2824.9	2794.3	2774.5
7.5°	3064.6	2977.8	2884.9	2806.6	2774.5	2753.7
8°	3062.7	2970.2	2871.6	2789.1	2753.7	2731.6
8.5°	3060.3	2962.2	2857.5	2770.2	2733.0	2709.4
9°	3057.0	2953.2	2842.9	2751.8	2711.3	2686.3
9.5°	3053.2	2943.8	2827.8	2732.0	2689.6	2664.1
10°	3049.0	2934.4	2812.7	2713.2	2667.9	2641.0
10.5°	3044.3	2924.0	2797.1	2692.9	2645.7	2617.4
11°	3038.6	2912.7	2781.1	2673.1	2623.1	2593.8
11.5°	3033.0	2901.4	2764.1	2651.8	2600.0	2570.2
12°	3025.9	2889.6	2747.1	2631.1	2576.8	2546.2
12.5°	3019.3	2877.3	2729.7	2609.9	2553.3	2521.2
13°	3011.3	2864.6	2712.2	2588.2	2529.7	2496.2
13.5°	3003.2	2851.4	2693.8	2566.5	2506.1	2472.1
14°	2994.3	2837.7	2675.0	2543.8	2481.6	2447.1
14.5°	2985.3	2823.5	2655.6	2521.2	2457.5	2421.7
15°	2975.4	2808.4	2636.7	2499.0	2432.5	2396.7
15.5°	2965.0	2793.3	2616.5	2475.0	2407.5	2370.2
16°	2954.2	2777.3	2596.7	2451.8	2382.5	2344.8
16.5°	2942.9	2761.7	2576.4	2427.8	2357.0	2318.8
17°	2930.6	2744.8	2555.1	2404.7	2332.0	2292.9
17.5°	2918.3	2727.8	2534.4	2381.1	2306.6	2266.5
18°	2905.1	2710.3	2512.7	2356.1	2281.1	2240.1
18.5°	2891.9	2692.4	2491.0	2331.6	2255.1	2213.6
19°	2877.3	2674.0	2468.8	2307.5	2228.7	2187.7
19.5°	2862.7	2655.6	2446.7	2283.0	2202.8	2160.3
20°	2847.6	2635.8	2424.0	2258.0	2176.8	2134.9
20.5°	2831.6	2616.9	2401.4	2232.5	2150.9	2107.5
21°	2815.5	2596.7	2377.8	2207.5	2124.5	2081.1

TEST NUMBER: P776782

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-HCD82TRLWW-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2763.2	2534.4	2307.0	2131.1	2045.2	2000.0
23°	2744.3	2512.2	2282.5	2105.1	2017.9	1973.1
23.5°	2724.0	2490.0	2258.0	2079.7	1991.9	1946.2
24°	2703.7	2467.4	2233.0	2052.8	1965.5	1919.3
24.5°	2682.0	2443.8	2208.0	2027.8	1938.2	1891.9
25°	2659.4	2419.3	2182.5	2000.9	1911.3	1864.6
25.5°	2636.7	2395.2	2157.0	1974.5	1884.9	1837.7
26°	2613.2	2370.7	2131.1	1948.5	1858.0	1810.8
26.5°	2590.0	2345.2	2105.1	1922.6	1831.1	1783.9
27°	2566.9	2319.8	2078.7	1895.7	1804.7	1757.5
27.5°	2543.3	2295.2	2052.8	1868.8	1777.3	1730.2
28°	2519.8	2270.7	2026.8	1842.4	1750.9	1702.8
28.5°	2496.7	2245.7	2001.8	1816.9	1723.6	1675.4
29°	2474.0	2221.7	1976.4	1790.5	1697.6	1649.0
29.5°	2451.8	2198.1	1951.9	1765.1	1670.7	1622.6
30°	2430.1	2174.5	1926.9	1738.6	1644.3	1595.7
30.5°	2407.5	2150.9	1901.4	1713.2	1617.9	1568.4
31°	2382.0	2125.4	1875.4	1687.7	1592.0	1542.0
31.5°	2355.1	2099.0	1850.0	1661.8	1565.5	1515.5
32°	2325.0	2069.8	1822.6	1635.8	1539.1	1489.1
32.5°	2292.9	2039.6	1794.8	1609.4	1512.7	1461.8
33°	2258.9	2009.4	1766.5	1583.0	1487.2	1435.8
33.5°	2224.0	1976.9	1737.7	1556.6	1461.3	1410.4
34°	2187.7	1944.3	1708.0	1529.7	1435.4	1383.9
34.5°	2150.9	1911.3	1677.8	1502.3	1409.4	1358.0
35°	2113.2	1877.3	1647.6	1475.0	1383.9	1331.6
35.5°	2074.0	1843.4	1617.4	1447.1	1357.5	1305.6
36°	2034.4	1808.5	1586.8	1420.3	1332.1	1280.6
36.5°	1993.4	1774.0	1556.1	1392.4	1306.1	1254.7
37°	1951.9	1738.2	1524.5	1364.1	1280.2	1229.7
37.5°	1909.9	1702.8	1493.8	1336.3	1254.2	1203.8
38°	1867.4	1666.0	1462.2	1308.5	1228.3	1178.8
38.5°	1825.0	1630.2	1431.1	1280.6	1202.3	1153.3
39°	1782.0	1593.4	1400.4	1253.3	1176.4	1128.3
39.5°	1738.6	1557.0	1368.4	1225.4	1150.9	1103.8
40°	1693.4	1520.3	1337.2	1197.6	1125.5	1078.8
40.5°	1649.0	1483.0	1306.1	1170.3	1099.5	1053.8
41°	1605.6	1445.7	1275.0	1142.9	1074.0	1029.2
41.5°	1561.3	1408.9	1243.8	1115.1	1048.1	1004.2
42°	1517.4	1372.6	1213.2	1088.7	1023.1	979.2
42.5°	1472.6	1334.9	1183.0	1062.2	998.1	955.2
43°	1429.2	1299.0	1152.3	1034.9	973.6	930.6
43.5°	1386.3	1262.7	1121.2	1008.0	949.0	906.6

TEST NUMBER: P776782

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-HCD82TRLWW-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1261.8	1156.1	1032.1	929.7	875.0	833.9
45.5°	1220.7	1120.7	1002.3	903.8	851.4	810.4
46°	1182.5	1086.8	973.6	878.8	827.3	787.2
46.5°	1142.9	1052.8	944.8	853.8	804.2	764.6
47°	1105.6	1020.3	916.5	828.3	781.1	741.5
47.5°	1069.3	987.2	888.2	803.3	758.5	718.9
48°	1034.9	955.6	861.3	779.2	736.3	696.7
48.5°	1000.0	924.5	833.9	754.7	713.7	675.0
49°	966.5	894.8	807.5	731.6	692.4	652.8
49.5°	934.9	865.6	781.1	708.0	671.2	633.0
50°	904.2	836.3	755.6	684.9	650.0	611.8
50.5°	873.6	808.0	730.2	661.8	629.7	591.5
51°	845.3	781.1	706.1	640.1	608.5	572.2
51.5°	817.9	755.2	682.1	617.9	589.1	553.8
52°	791.0	729.7	659.0	597.6	569.8	535.4
52.5°	764.6	705.2	636.3	576.4	550.5	517.9
53°	739.6	681.1	614.1	556.1	531.6	501.9
53.5°	715.1	658.0	592.9	536.3	513.2	486.3
54°	692.4	635.8	571.7	517.4	495.3	472.2
54.5°	669.8	614.6	551.9	498.6	478.3	459.4
55°	647.6	592.9	532.5	480.7	462.3	447.6
55.5°	626.9	573.1	513.7	463.2	446.7	436.8
56°	606.1	553.8	495.3	446.7	431.6	426.9
56.5°	586.3	534.4	477.3	430.7	417.4	419.3
57°	567.0	515.6	460.4	414.6	404.7	410.4
57.5°	548.1	498.1	443.9	400.0	392.0	400.0
58°	530.2	481.1	427.8	385.8	380.7	389.6
58.5°	512.3	464.1	412.3	372.2	370.3	379.2
59°	494.8	447.2	397.2	359.0	360.8	368.9
59.5°	478.3	432.1	382.5	345.7	351.9	358.0
60°	461.8	416.5	368.4	334.0	342.4	347.6
60.5°	445.7	401.4	354.7	322.2	333.0	337.3
61°	430.2	385.8	341.5	310.8	323.6	327.4
61.5°	415.6	372.2	328.3	300.0	314.1	317.4
62°	400.9	358.5	315.6	290.1	305.2	308.0
62.5°	386.8	345.3	303.8	279.7	295.7	298.1
63°	372.2	331.6	292.0	270.3	286.8	289.1
63.5°	358.0	318.9	280.7	261.3	278.3	279.7
64°	344.3	306.6	269.3	252.4	269.3	271.2
64.5°	331.6	294.3	259.0	243.9	261.3	262.3
65°	317.9	282.5	248.6	236.3	252.8	253.8
65.5°	305.7	271.2	238.7	228.8	244.8	245.8
66°	293.4	259.9	229.2	221.7	236.8	237.3



TEST NUMBER: P776782

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-HCD82TRLWW-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	258.5	228.8	202.4	200.5	213.2	213.7
68°	247.6	218.9	193.9	193.9	206.1	206.6
68.5°	236.8	209.0	185.8	187.3	198.6	199.1
69°	226.4	200.0	178.3	180.2	192.0	192.0
69.5°	216.0	191.0	170.8	174.1	184.9	184.4
70°	206.1	182.1	164.1	167.9	177.8	177.8
70.5°	196.2	173.6	157.5	161.8	171.2	170.8
71°	186.8	166.0	150.9	156.1	165.1	164.1
71.5°	177.8	158.5	144.3	150.0	158.5	158.0
72°	168.9	150.9	137.3	143.9	152.4	151.9
72.5°	160.4	143.4	131.6	137.7	146.2	145.3
73°	151.9	135.4	125.5	132.1	140.1	139.1
73.5°	143.9	128.8	119.8	126.4	134.0	133.0
74°	135.8	121.7	114.6	121.2	127.8	127.4
74.5°	128.3	115.1	109.0	115.6	122.2	121.2
75°	120.8	109.0	103.8	109.9	116.5	115.6
75.5°	113.7	102.8	99.1	104.7	110.8	109.9
76°	106.6	97.2	93.9	99.5	105.2	104.7
76.5°	100.0	91.5	89.1	94.8	100.0	99.1
77°	93.9	85.8	84.4	89.6	94.8	93.9
77.5°	87.7	80.7	80.2	84.9	89.1	88.7
78°	81.6	75.5	75.9	80.2	84.4	83.5
78.5°	75.9	70.8	71.2	75.5	79.2	78.8
79°	70.3	66.0	67.5	70.8	74.5	73.6
79.5°	65.1	61.3	63.2	66.5	69.8	68.9
80°	59.4	57.1	59.0	61.8	65.1	64.1
80.5°	54.7	52.8	55.2	57.5	60.4	59.9
81°	50.0	48.6	51.4	53.3	56.1	55.2
81.5°	45.3	44.8	47.2	49.1	51.4	50.9
82°	41.5	41.0	43.4	45.3	47.2	46.7
82.5°	37.3	37.3	39.6	41.0	42.9	42.5
83°	33.5	33.5	36.3	37.3	38.7	38.2
83.5°	29.2	30.2	32.5	33.5	34.9	34.0
84°	25.5	26.9	29.2	29.7	30.7	30.2
84.5°	21.7	23.6	25.9	26.4	26.9	26.4
85°	18.4	20.8	22.6	23.1	23.1	22.6
85.5°	15.1	17.5	19.3	19.8	19.3	18.9
86°	12.3	14.6	16.0	16.5	16.5	16.0
86.5°	9.4	11.8	13.2	13.7	14.2	13.2
87°	7.1	9.0	10.4	10.8	11.3	10.4
87.5°	4.2	6.6	7.5	7.5	8.5	7.5
88°	2.4	3.8	4.2	4.7	6.1	5.2
88.5°	0.5	1.4	1.9	2.4	3.8	3.3



TEST NUMBER: P776782

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-HCD82TRLWW-5000lm-3500K

CANDELA DISTRIBUTION (continued):

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



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Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





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

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Scaled Data Report



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Scaled Data Report





21.5°	2053.7	2078.7	2164.6	2314.1	2510.8	2738.2	2948.1	3089.6	3159.4	3130.1	3003.7
22°	2026.8	2051.8	2139.6	2290.5	2489.6	2720.2	2933.9	3076.4	3147.1	3117.9	2989.6



44°	882.1	908.5	976.9	1073.6	1187.2	1327.8	1447.6	1480.2	1512.2	1501.4	1449.0
44.5°	858.0	884.4	950.9	1046.2	1153.3	1287.7	1403.3	1433.0	1463.7	1451.4	1402.8



66.5°	229.2	230.7	225.5	226.4	250.5	287.7	333.0	353.8	363.7	356.1	325.9
67°	221.7	223.1	218.4	217.4	240.1	276.4	319.8	339.6	348.6	341.5	312.7



89°	1.4	1.9	2.4	1.9	0.9	0.5	0.5	0.0	0.0	0.0	0.0
89.5°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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21.5°	2798.1	2576.4	2354.7	2182.0	2098.1	2053.7
22°	2780.6	2554.7	2330.6	2156.6	2071.7	2026.8



44°	1343.8	1226.4	1091.5	982.1	923.6	882.1
44.5°	1302.8	1190.5	1061.8	955.6	899.5	858.0



66.5°	281.6	249.5	219.8	214.6	228.8	229.2
67°	269.8	239.1	210.8	207.5	221.2	221.7

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89°	0.0	0.5	0.5	0.5	1.9	1.4
89.5°	0.0	0.0	0.0	0.0	0.5	0.5

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Scaled Data Report



(END OF REPORT)