

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: P776817

Luminaire Tested: HCDJBS4050CSD-HCD8TRMW-5000lm-3500K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776817
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2310613A001)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD8TRMW-5000lm-3500K
Description: 8 INCH ROUND MEDIUM MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

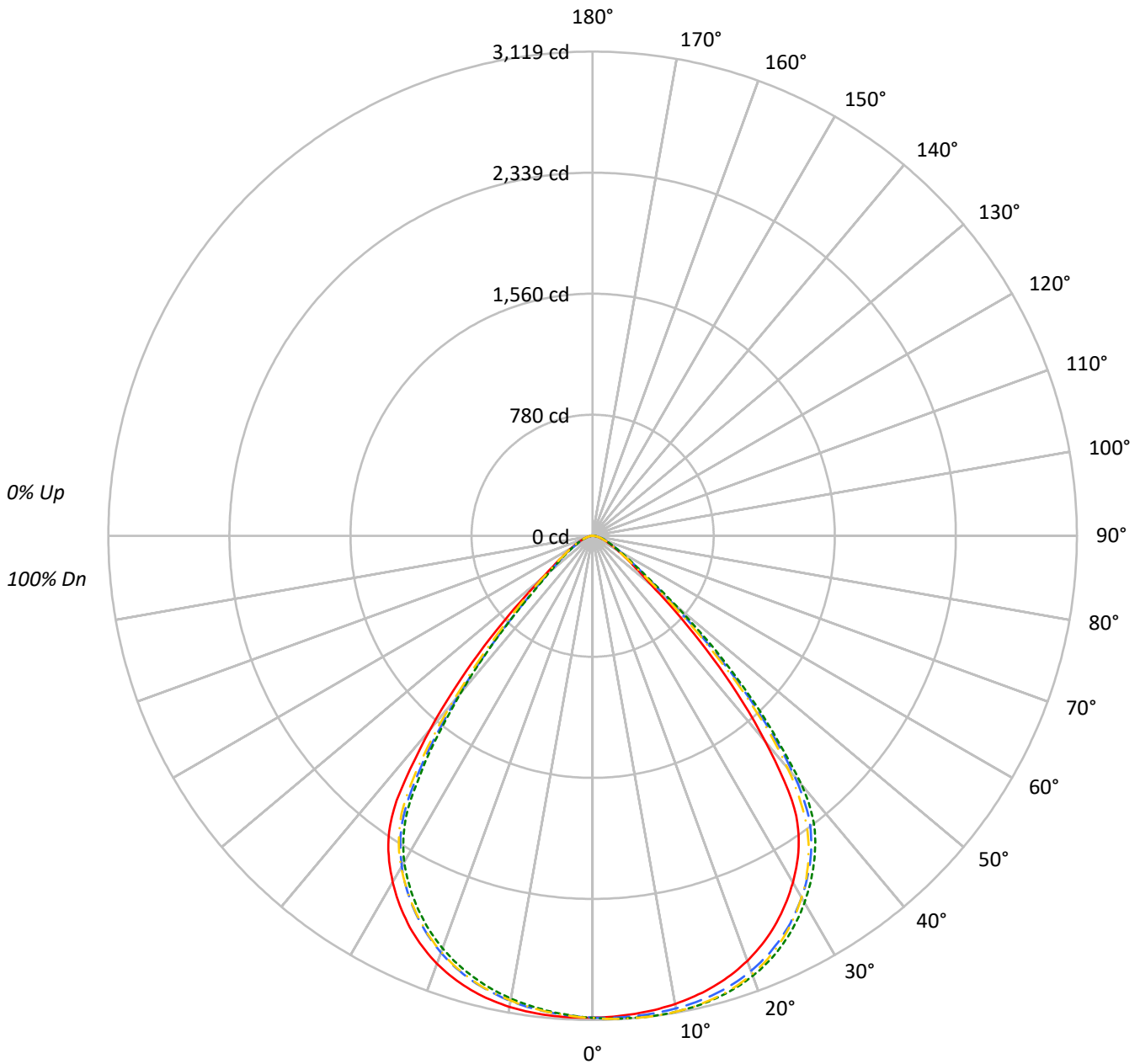
Lumens per Lamp: N/A
Luminaire Lumens: 5029.6 lumens
Efficiency: N/A
Efficacy: 104.8 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.22 / 1.18
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

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										
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	100	100	100	100	100		
	1	112	109	106	103	110	107	104	102	103	100	98	99	97	95	95	94	93	91	91	91	91	91	91		
	2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	84	82	82	82	82	82	82		
	3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	81	78	75	74	74	74	74	74	74		
	4	92	83	76	71	90	82	75	71	79	74	70	77	73	69	75	71	68	66	66	66	66	66	66		
	5	86	76	69	64	84	75	68	64	73	67	63	71	66	62	70	65	62	60	60	60	60	60	60		
	6	81	70	63	58	79	69	62	58	68	62	57	66	61	57	65	60	56	55	55	55	55	55	55		
	7	76	65	58	53	74	64	57	52	63	56	52	61	56	52	60	55	51	50	50	50	50	50	50		
	8	71	60	53	48	70	59	53	48	58	52	48	57	51	47	56	51	47	46	46	46	46	46	46		
	9	67	56	49	44	66	55	48	44	54	48	44	53	48	44	52	47	43	42	42	42	42	42	42		
	10	63	52	45	41	62	51	45	41	51	45	40	50	44	40	49	44	40	39	39	39	39	39	39		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	94800	94800	94800	94800
5°	94757	95539	95091	94294
10°	94932	96498	95530	93835
15°	95030	97458	95729	93137
20°	94665	98018	95276	91861
25°	93433	97721	93766	89478
30°	90932	96199	90781	85546
35°	85994	93005	84779	74765
40°	69048	83403	64819	52508
45°	44813	58776	40089	29196
50°	23739	33395	20652	16885
55°	15484	17746	13179	11795
60°	11113	12353	9532	8866
65°	8618	9536	7426	7051
70°	6945	7873	5981	5686
75°	5733	6736	4789	4506
80°	4554	5890	3569	3323
85°	3293	5465	1997	1646

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 59998 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	294.9	5.9
10°-20°	851.1	16.9
20°-30°	1276.7	25.4
30°-40°	1381.9	27.5
40°-50°	787.1	15.6
50°-60°	261.3	5.2
60°-70°	115.3	2.3
70°-80°	50.3	1.0
80°-90°	11.2	0.2
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°	2422.7	48.2
0°-40°	3804.5	75.6
0°-60°	4852.9	96.5
0°-90°	5029.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5029.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3105	3105	3105	3105	3105	
5°	3092	3117	3103	3077	3092	294
15°	3007	3083	3029	2947	3007	848
25°	2774	2901	2784	2656	2774	1275
35°	2307	2495	2275	2006	2307	1405
45°	1038	1361	928	676	1038	808
55°	291	333	248	222	291	271
65°	119	132	103	98	119	121
75°	49	57	41	38	49	52
85°	9	16	6	5	9	11
90°	0	2	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°	3105.1	3105.1	3105.1	3105.1	3105.1	3105.1	3105.1	3105.1	3105.1	3105.1	3105.1
0.5°	3103.7	3104.7	3104.7	3105.1	3107.0	3108.4	3109.8	3108.0	3105.1	3103.7	3102.3
1°	3103.2	3104.7	3105.1	3106.1	3108.9	3110.3	3111.3	3108.9	3105.6	3103.2	3100.9
1.5°	3102.3	3104.2	3106.1	3107.5	3110.3	3112.2	3112.7	3109.8	3105.6	3102.8	3099.5
2°	3101.4	3104.2	3106.5	3108.9	3111.7	3114.1	3114.1	3110.8	3105.6	3101.8	3097.6
2.5°	3100.4	3103.7	3107.0	3109.8	3113.1	3115.0	3115.0	3111.3	3105.6	3100.9	3095.7
3°	3099.0	3103.2	3107.0	3110.8	3114.6	3116.9	3116.0	3111.7	3105.6	3099.5	3093.8
3.5°	3097.1	3102.8	3107.0	3111.7	3115.5	3117.9	3117.4	3111.7	3104.7	3098.5	3091.4
4°	3095.7	3101.8	3107.0	3112.2	3116.4	3118.8	3117.9	3112.2	3104.2	3097.1	3089.1
4.5°	3094.3	3100.4	3106.5	3112.7	3116.9	3119.7	3118.3	3112.2	3103.7	3095.2	3086.7
5°	3091.9	3099.0	3106.1	3112.7	3117.4	3120.2	3118.8	3111.7	3102.8	3093.3	3083.9
5.5°	3090.0	3098.0	3105.6	3113.1	3117.4	3120.7	3118.8	3111.3	3101.8	3091.4	3081.1
6°	3087.7	3096.2	3104.7	3113.1	3117.9	3121.2	3119.3	3110.8	3100.4	3089.1	3077.8
6.5°	3085.3	3094.7	3103.7	3112.7	3117.9	3121.2	3119.3	3109.8	3099.0	3086.7	3074.5
7°	3083.0	3092.4	3102.8	3112.2	3117.9	3121.2	3118.8	3108.9	3097.1	3083.9	3070.7
7.5°	3080.1	3090.5	3101.4	3111.7	3117.4	3121.2	3118.3	3108.0	3095.2	3081.1	3066.9
8°	3076.8	3088.1	3099.9	3110.8	3116.9	3120.7	3117.4	3106.5	3092.9	3078.2	3062.7
8.5°	3073.5	3085.8	3098.0	3109.8	3116.0	3120.2	3116.4	3104.7	3090.5	3074.5	3058.4
9°	3070.2	3083.0	3096.2	3108.4	3115.0	3119.7	3115.5	3102.8	3087.7	3071.2	3053.7
9.5°	3066.5	3079.7	3094.3	3107.5	3114.1	3118.3	3114.1	3100.4	3084.8	3066.9	3048.5
10°	3062.2	3076.4	3091.4	3105.6	3112.7	3117.4	3112.2	3098.0	3081.5	3062.7	3042.9
10.5°	3058.0	3073.1	3089.1	3104.2	3110.8	3115.5	3110.3	3095.2	3077.8	3058.0	3037.7
11°	3053.7	3069.3	3086.3	3101.8	3108.9	3113.6	3108.0	3092.4	3073.5	3052.8	3032.0
11.5°	3048.5	3065.0	3083.4	3099.9	3107.0	3111.7	3105.6	3089.1	3069.3	3048.1	3025.9
12°	3043.4	3060.8	3080.1	3097.6	3104.7	3109.4	3102.8	3085.3	3064.6	3042.4	3018.8
12.5°	3038.2	3056.6	3076.4	3094.7	3101.8	3107.0	3099.5	3081.1	3059.4	3036.3	3012.2
13°	3032.0	3051.4	3072.6	3091.4	3099.0	3104.2	3096.2	3076.4	3054.2	3029.7	3004.7
13.5°	3026.4	3046.2	3068.3	3088.6	3095.2	3100.9	3091.9	3071.6	3048.5	3023.1	2997.1
14°	3020.2	3040.5	3064.1	3084.8	3091.9	3097.1	3087.7	3066.5	3042.4	3016.0	2988.7
14.5°	3013.6	3034.9	3059.4	3081.1	3087.7	3093.3	3083.4	3060.8	3035.8	3008.5	2980.6
15°	3006.6	3029.2	3054.7	3076.8	3083.4	3089.1	3078.7	3054.7	3028.7	3000.0	2971.7
15.5°	2999.0	3022.6	3049.0	3072.1	3078.2	3084.4	3073.5	3048.5	3021.2	2991.5	2962.2
16°	2991.0	3016.0	3043.4	3066.9	3073.5	3079.2	3067.9	3041.5	3013.2	2982.5	2952.3
16.5°	2983.0	3008.9	3037.2	3061.7	3067.9	3074.0	3061.3	3033.9	3004.7	2973.1	2942.4
17°	2974.0	3001.4	3031.1	3056.1	3061.7	3068.3	3054.7	3025.9	2996.2	2963.2	2931.1
17.5°	2965.5	2993.4	3024.0	3050.0	3055.6	3062.2	3047.6	3017.4	2986.8	2953.3	2920.3
18°	2956.1	2985.4	3016.9	3042.9	3049.0	3055.6	3040.0	3008.5	2976.9	2942.0	2908.5
18.5°	2946.2	2976.4	3008.9	3036.3	3041.5	3048.1	3031.6	2999.5	2966.5	2930.7	2896.7
19°	2935.4	2967.4	3000.9	3028.7	3033.4	3040.0	3023.1	2989.6	2956.1	2918.9	2884.0
19.5°	2924.5	2958.0	2992.4	3020.7	3025.4	3032.5	3014.6	2979.2	2944.3	2906.6	2870.3
20°	2913.7	2947.6	2982.5	3012.2	3016.9	3023.5	3005.2	2967.9	2932.5	2893.4	2856.6
20.5°	2901.9	2937.3	2973.6	3003.3	3007.5	3014.1	2994.8	2956.6	2920.3	2880.2	2842.9
21°	2889.6	2926.4	2963.7	2994.3	2998.1	3004.2	2983.9	2944.3	2907.1	2866.0	2827.4



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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°	2850.0	2890.1	2930.2	2962.7	2965.5	2972.1	2948.6	2905.2	2865.1	2821.3	2780.2
23°	2835.9	2877.4	2918.4	2951.4	2954.2	2959.9	2935.8	2890.6	2850.0	2804.7	2762.8
23.5°	2820.8	2864.2	2905.7	2939.6	2942.0	2948.1	2921.7	2876.0	2833.5	2787.8	2745.3
24°	2805.7	2850.0	2892.0	2926.9	2928.8	2934.9	2908.0	2860.4	2817.5	2770.3	2727.4
24.5°	2789.7	2835.9	2879.3	2913.7	2915.1	2921.2	2893.4	2844.4	2801.0	2752.9	2708.6
25°	2773.6	2820.3	2864.6	2900.0	2900.9	2907.1	2878.3	2827.9	2783.5	2734.0	2689.2
25.5°	2756.7	2804.7	2850.0	2885.9	2886.3	2892.5	2862.3	2810.4	2765.1	2714.2	2669.4
26°	2738.7	2788.7	2834.0	2871.2	2871.7	2877.4	2845.8	2792.5	2745.8	2694.4	2648.7
26.5°	2720.8	2771.7	2818.9	2855.7	2855.2	2861.3	2828.3	2773.6	2726.9	2675.1	2628.4
27°	2702.4	2754.8	2802.4	2840.1	2839.2	2844.4	2810.9	2754.8	2707.1	2653.9	2606.2
27.5°	2683.6	2736.4	2784.9	2823.6	2822.2	2827.4	2792.5	2735.0	2686.9	2632.6	2584.1
28°	2664.2	2718.5	2768.0	2806.6	2804.7	2809.5	2773.6	2715.2	2665.6	2611.4	2561.0
28.5°	2643.5	2699.1	2749.1	2788.7	2786.4	2791.5	2753.8	2693.9	2644.0	2588.3	2537.9
29°	2622.7	2679.8	2730.7	2770.8	2768.0	2772.2	2733.1	2672.2	2621.8	2565.2	2512.9
29.5°	2601.0	2659.0	2710.9	2752.4	2748.6	2752.4	2712.3	2649.6	2598.7	2541.2	2486.5
30°	2579.4	2638.8	2691.6	2732.6	2728.8	2732.1	2690.6	2627.0	2575.1	2517.1	2459.1
30.5°	2555.8	2617.5	2670.4	2713.3	2708.1	2711.4	2668.9	2603.9	2550.1	2490.7	2430.3
31°	2532.7	2595.4	2649.6	2692.5	2686.9	2690.2	2645.8	2578.9	2526.1	2463.8	2401.1
31.5°	2509.1	2571.3	2627.9	2671.3	2664.7	2667.5	2622.3	2552.9	2499.2	2436.5	2370.0
32°	2484.6	2549.2	2605.3	2649.1	2644.0	2645.4	2597.3	2526.1	2472.3	2408.2	2337.4
32.5°	2458.6	2524.7	2582.2	2627.4	2620.4	2621.8	2570.9	2498.2	2444.5	2377.1	2302.6
33°	2431.8	2499.7	2559.1	2604.8	2596.8	2597.3	2543.5	2470.0	2415.7	2344.0	2264.8
33.5°	2402.5	2474.2	2535.0	2581.2	2572.3	2572.3	2516.2	2439.3	2384.1	2308.2	2222.9
34°	2373.3	2446.8	2509.6	2557.7	2547.8	2545.9	2486.0	2407.7	2351.1	2270.0	2175.7
34.5°	2341.2	2417.1	2482.2	2532.7	2521.8	2518.0	2456.3	2374.2	2315.3	2222.9	2123.8
35°	2307.3	2387.0	2454.9	2507.2	2495.4	2489.8	2424.2	2338.4	2274.7	2173.4	2066.8
35.5°	2269.1	2354.0	2424.7	2480.3	2468.1	2460.5	2390.7	2297.4	2228.0	2119.6	2004.1
36°	2229.9	2319.1	2394.0	2452.5	2440.2	2430.3	2353.5	2252.1	2178.1	2058.3	1937.6
36.5°	2185.1	2282.3	2360.6	2424.2	2409.6	2396.9	2313.9	2204.5	2121.0	1991.8	1869.2
37°	2133.3	2239.4	2325.7	2393.1	2377.5	2360.6	2271.4	2155.0	2055.5	1922.0	1799.4
37.5°	2072.0	2191.7	2287.0	2358.7	2340.7	2320.5	2224.7	2098.8	1982.8	1848.9	1725.9
38°	2006.0	2138.0	2242.7	2320.5	2301.1	2278.5	2175.7	2041.8	1907.9	1772.5	1650.9
38.5°	1937.1	2077.2	2193.6	2278.5	2256.8	2231.8	2125.7	1980.0	1832.4	1695.2	1574.5
39°	1868.3	2010.7	2141.8	2231.4	2209.2	2183.3	2071.0	1917.8	1762.6	1617.9	1498.6
39.5°	1800.4	1943.7	2085.2	2182.3	2154.5	2127.6	2014.0	1848.5	1694.7	1542.9	1422.7
40°	1732.5	1878.6	2024.3	2126.7	2092.7	2071.5	1951.7	1779.6	1626.4	1469.8	1346.3
40.5°	1661.3	1815.9	1958.3	2066.8	2018.7	2009.3	1889.5	1706.0	1555.2	1396.2	1271.3
41°	1590.5	1749.9	1889.0	2002.2	1942.8	1947.5	1824.9	1633.0	1481.1	1320.8	1197.3
41.5°	1519.3	1682.5	1818.3	1933.3	1865.0	1880.5	1759.3	1559.4	1408.0	1245.8	1126.0
42°	1448.1	1611.7	1747.1	1859.3	1791.9	1809.8	1691.4	1489.1	1335.4	1176.0	1053.4
42.5°	1377.4	1537.2	1674.0	1782.4	1724.4	1736.2	1618.3	1415.1	1264.7	1106.2	983.6
43°	1309.0	1463.2	1598.1	1702.7	1656.1	1663.6	1542.0	1342.5	1196.8	1040.2	919.0
43.5°	1241.1	1390.1	1524.0	1625.4	1584.4	1589.6	1466.5	1269.4	1130.3	976.6	855.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1037.9	1175.6	1296.3	1389.6	1361.3	1372.7	1235.4	1057.7	928.5	797.9	689.9
45.5°	972.8	1104.8	1219.4	1316.6	1289.2	1301.0	1157.2	988.8	864.8	740.8	640.8
46°	908.7	1034.6	1142.1	1240.6	1219.9	1228.4	1087.4	921.4	803.0	688.5	597.4
46.5°	846.9	965.7	1069.0	1170.4	1151.5	1155.8	1013.3	855.4	745.0	635.6	556.4
47°	786.5	898.8	996.4	1100.6	1083.1	1084.6	945.4	793.1	690.8	589.0	519.2
47.5°	726.2	832.7	931.3	1034.1	1013.8	1013.8	879.9	732.3	637.5	546.0	484.7
48°	672.9	771.4	867.2	969.5	945.4	945.9	818.1	675.3	587.5	506.9	454.1
48.5°	622.0	713.0	805.9	908.7	879.9	879.4	755.4	620.6	540.9	470.1	430.5
49°	575.8	657.8	749.8	846.9	817.7	813.4	698.4	571.0	498.4	443.7	406.5
49.5°	533.8	609.7	696.9	788.9	759.2	750.7	645.1	526.2	460.7	417.3	382.4
50°	499.8	564.0	648.4	731.8	703.1	689.4	595.6	486.2	434.8	390.9	358.4
50.5°	469.2	524.4	601.7	677.1	648.8	634.2	547.0	450.8	408.8	364.5	334.3
51°	441.4	489.0	559.7	626.7	594.6	581.9	505.0	423.9	382.9	338.6	319.2
51.5°	415.9	459.3	521.1	580.0	548.4	537.1	466.4	396.6	357.0	322.5	305.1
52°	393.7	431.5	485.7	536.6	504.1	495.1	439.0	369.2	331.5	308.4	291.4
52.5°	372.5	407.4	454.6	497.5	464.5	457.9	411.7	342.3	316.4	294.7	277.3
53°	352.2	384.8	424.9	462.6	438.1	429.6	384.8	324.9	302.3	280.6	264.1
53.5°	333.9	364.0	398.5	431.0	412.1	401.8	357.4	310.3	288.1	266.9	251.3
54°	319.7	344.2	373.5	401.3	385.7	373.5	330.6	296.1	274.4	253.7	239.5
54.5°	305.6	328.2	351.8	375.8	359.3	345.6	315.0	281.5	260.8	241.4	228.2
55°	290.9	313.1	332.9	352.2	333.4	328.2	300.4	267.4	247.6	229.6	217.4
55.5°	277.3	299.0	317.8	332.9	317.3	313.6	285.8	254.2	235.3	218.8	208.0
56°	264.1	284.8	302.7	317.3	303.2	298.5	271.1	241.0	224.5	208.9	198.5
56.5°	251.3	271.1	289.1	302.7	288.1	283.9	257.5	229.2	214.1	199.5	190.0
57°	239.1	257.9	274.4	288.1	273.5	269.7	244.7	218.3	203.7	191.0	182.0
57.5°	228.2	245.2	261.2	274.0	259.8	255.6	232.5	208.4	194.7	183.0	174.5
58°	217.4	233.4	248.0	259.8	246.6	242.8	221.2	198.5	186.3	174.9	167.4
58.5°	208.0	222.6	236.2	247.1	234.4	231.1	210.8	189.6	178.2	167.9	160.3
59°	198.5	212.7	224.9	234.8	223.0	219.7	200.9	181.1	170.7	160.8	153.7
59.5°	190.5	203.2	214.6	223.5	212.2	209.4	191.4	173.5	163.2	154.2	147.6
60°	182.0	194.3	204.7	213.1	202.3	199.5	183.0	166.5	156.1	148.1	141.9
60.5°	174.0	185.8	195.7	203.2	193.3	190.5	175.4	159.4	150.0	141.9	136.3
61°	167.4	178.2	187.2	193.8	184.8	182.0	167.9	152.8	143.3	136.3	131.1
61.5°	160.8	170.2	179.2	185.3	176.8	174.5	160.8	146.7	137.2	131.1	125.9
62°	154.2	164.1	171.6	177.3	169.3	166.5	154.2	140.5	131.6	125.4	121.2
62.5°	147.6	157.5	165.5	169.3	162.2	159.9	147.6	134.9	126.4	120.7	116.5
63°	141.0	151.4	158.9	163.2	155.1	152.8	141.9	129.7	121.2	116.0	111.8
63.5°	135.3	144.8	152.8	156.6	149.0	146.7	136.3	124.5	116.5	111.3	107.5
64°	129.7	138.6	146.2	150.4	142.9	141.0	130.6	119.3	111.3	106.6	103.3
64.5°	124.5	133.0	139.6	144.3	137.2	135.3	125.9	114.6	107.0	102.8	99.0
65°	119.3	127.3	134.4	138.2	132.0	130.1	120.7	109.9	102.8	98.1	95.3
65.5°	114.1	122.6	128.7	133.0	126.4	125.0	116.0	105.6	98.6	94.3	91.5
66°	109.9	117.4	124.0	127.8	121.7	120.2	111.3	101.4	94.3	90.5	87.7



TEST NUMBER: P776817

CATALOG NUMBER: HCDJBL54050CSD-HCD8TRMW-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	96.7	103.7	109.9	113.2	108.0	106.6	99.0	89.6	83.0	79.7	77.3
68°	92.4	99.5	105.6	108.9	103.7	102.3	95.3	85.8	79.7	76.4	74.0
68.5°	88.7	95.3	101.4	104.7	99.5	98.1	91.0	82.0	76.4	73.1	71.2
69°	84.9	91.5	97.1	100.4	95.7	94.3	87.7	78.7	73.1	69.8	67.9
69.5°	81.6	87.7	93.4	96.2	92.0	90.5	83.9	75.4	69.8	67.0	65.1
70°	77.8	83.9	89.6	92.4	88.2	86.8	80.6	72.1	67.0	63.7	62.2
70.5°	74.5	80.6	85.8	88.7	84.4	83.5	77.3	68.8	63.7	60.8	59.4
71°	71.2	76.9	82.5	85.3	81.1	80.2	74.0	66.0	60.8	58.0	56.6
71.5°	67.9	73.6	79.2	81.6	77.8	76.9	71.2	63.2	58.0	55.2	53.8
72°	65.1	70.7	75.9	78.3	74.5	73.6	67.9	60.4	55.2	52.3	51.4
72.5°	62.2	67.4	72.6	75.0	71.7	70.3	65.1	57.5	52.8	50.0	48.6
73°	59.4	64.6	69.3	72.1	68.4	67.4	62.2	54.7	50.0	47.6	46.2
73.5°	56.6	61.3	66.5	68.8	65.5	64.6	59.4	52.3	47.6	44.8	43.9
74°	53.8	58.5	63.7	66.0	62.7	61.8	56.6	49.5	45.3	42.4	41.5
74.5°	50.9	55.6	60.4	63.2	59.9	58.9	54.2	47.2	42.9	40.1	39.6
75°	48.6	53.3	58.0	60.4	57.1	56.1	51.4	44.8	40.6	38.2	37.3
75.5°	45.7	50.5	55.2	57.5	54.7	53.8	49.0	42.4	38.2	35.8	34.9
76°	43.4	47.6	52.3	55.2	51.9	51.4	46.7	40.1	35.8	33.5	33.0
76.5°	41.0	45.3	50.0	52.3	49.5	48.6	44.3	37.7	34.0	31.6	30.7
77°	38.7	42.9	47.2	50.0	47.2	46.2	42.0	35.8	31.6	29.2	28.8
77.5°	36.3	40.6	44.8	47.2	44.8	43.9	39.6	33.5	29.7	27.3	26.4
78°	34.4	38.2	42.4	44.8	42.4	41.5	37.3	31.1	27.3	25.5	24.5
78.5°	32.1	35.8	40.1	42.9	40.1	39.6	35.4	29.2	25.5	23.6	22.6
79°	30.2	34.0	38.2	40.6	37.7	37.3	33.0	27.3	23.6	21.7	21.2
79.5°	27.8	31.6	35.8	38.2	35.8	35.4	30.7	25.5	22.2	19.8	19.3
80°	25.9	29.7	33.5	35.8	33.5	33.0	28.8	23.6	20.3	17.9	17.4
80.5°	24.0	27.3	31.6	34.0	31.6	30.7	26.9	21.7	18.4	16.5	16.0
81°	22.2	25.5	29.2	31.6	29.7	29.2	25.0	19.8	17.0	14.6	14.1
81.5°	20.3	23.6	27.3	29.7	27.3	26.9	23.1	17.9	15.1	13.2	12.7
82°	18.9	21.7	25.5	27.8	25.5	25.0	21.7	16.5	13.7	11.8	11.3
82.5°	17.0	19.8	23.6	25.9	24.0	23.6	19.8	14.6	12.3	10.4	9.9
83°	15.6	18.4	21.7	24.0	22.2	21.7	17.9	13.2	10.8	9.0	8.5
83.5°	13.7	16.5	20.3	22.2	20.3	19.8	16.5	11.8	9.4	7.5	7.5
84°	12.3	15.1	18.4	20.7	18.9	18.4	15.1	10.4	8.0	6.1	6.1
84.5°	10.8	13.2	17.0	18.9	17.0	16.5	13.7	9.0	6.6	4.7	5.2
85°	9.4	11.8	15.1	17.4	15.6	15.1	11.8	7.5	5.7	3.8	3.8
85.5°	8.0	10.4	13.7	16.0	14.1	13.7	10.4	6.1	4.2	2.8	2.8
86°	6.6	9.0	11.8	14.1	12.7	12.3	9.4	5.2	3.3	2.4	1.9
86.5°	5.2	7.5	10.4	12.7	11.3	10.8	8.0	4.2	2.4	1.4	0.9
87°	4.2	6.1	9.4	11.3	9.9	9.4	6.6	3.3	1.9	0.9	0.0
87.5°	3.3	4.7	8.0	9.9	8.5	8.0	5.7	2.4	0.9	0.5	0.0
88°	2.4	3.8	6.6	8.5	7.1	7.1	4.7	1.9	0.5	0.0	0.0
88.5°	1.4	2.8	5.7	7.1	6.1	5.7	3.3	0.9	0.0	0.0	0.0



TEST NUMBER: P776817

CATALOG NUMBER: HCDJBL54050CSD-HCD8TRMW-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	2.4	3.8	2.4	2.4	0.5	0.0	0.0	0.0	0.0



TEST NUMBER: P776817

CATALOG NUMBER: HCDJBL54050CSD-HCD8TRMW-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3105.1	3105.1	3105.1	3105.1	3105.1	3105.1
0.5°	3101.4	3103.7	3104.2	3106.1	3105.6	3103.7
1°	3099.5	3101.4	3101.8	3104.2	3104.2	3103.2
1.5°	3097.1	3098.5	3099.5	3101.8	3102.3	3102.3
2°	3094.7	3096.2	3096.6	3099.5	3100.9	3101.4
2.5°	3091.9	3093.3	3093.8	3097.1	3099.0	3100.4
3°	3089.6	3090.5	3091.0	3094.3	3096.6	3099.0
3.5°	3086.3	3087.2	3087.7	3091.9	3094.7	3097.1
4°	3083.4	3083.9	3084.8	3089.1	3092.9	3095.7
4.5°	3080.1	3080.6	3081.1	3086.3	3090.5	3094.3
5°	3076.4	3076.8	3077.3	3083.0	3088.1	3091.9
5.5°	3072.6	3073.1	3073.5	3080.1	3085.3	3090.0
6°	3068.3	3068.3	3069.3	3076.4	3082.5	3087.7
6.5°	3064.1	3064.6	3065.0	3072.6	3079.2	3085.3
7°	3059.4	3059.9	3060.8	3068.8	3076.4	3083.0
7.5°	3054.7	3055.1	3055.6	3065.0	3073.1	3080.1
8°	3050.0	3049.5	3050.9	3060.3	3069.3	3076.8
8.5°	3044.3	3044.3	3045.7	3056.1	3065.5	3073.5
9°	3039.1	3038.6	3040.0	3051.4	3061.7	3070.2
9.5°	3033.0	3033.4	3033.9	3045.7	3057.5	3066.5
10°	3026.8	3026.8	3028.3	3040.5	3052.8	3062.2
10.5°	3020.7	3020.2	3021.7	3034.9	3048.1	3058.0
11°	3013.6	3013.6	3015.1	3029.2	3042.9	3053.7
11.5°	3006.6	3006.6	3007.5	3023.1	3037.7	3048.5
12°	2999.0	2999.0	3000.4	3016.5	3032.0	3043.4
12.5°	2991.5	2991.0	2992.4	3009.4	3025.4	3038.2
13°	2983.5	2983.0	2983.9	3001.9	3019.3	3032.0
13.5°	2975.0	2974.5	2975.9	2994.3	3012.7	3026.4
14°	2966.0	2965.5	2967.0	2986.3	3005.6	3020.2
14.5°	2956.6	2956.6	2957.5	2977.8	2998.1	3013.6
15°	2947.2	2946.7	2948.1	2968.8	2990.1	3006.6
15.5°	2937.3	2936.3	2937.7	2958.9	2982.0	2999.0
16°	2926.4	2926.4	2926.9	2949.0	2973.1	2991.0
16.5°	2915.6	2915.6	2916.0	2938.7	2964.1	2983.0
17°	2903.8	2904.2	2904.7	2927.8	2954.2	2974.0
17.5°	2892.5	2892.5	2892.5	2917.0	2944.3	2965.5
18°	2879.7	2880.7	2880.2	2904.7	2933.5	2956.1
18.5°	2867.0	2867.5	2867.0	2892.5	2922.6	2946.2
19°	2853.8	2854.3	2853.8	2879.3	2910.8	2935.4
19.5°	2839.6	2841.5	2840.1	2866.5	2898.6	2924.5
20°	2825.5	2827.4	2825.0	2851.9	2885.9	2913.7
20.5°	2810.9	2812.3	2810.4	2838.2	2873.1	2901.9
21°	2795.3	2797.2	2794.8	2823.1	2859.9	2889.6

TEST NUMBER: P776817

CATALOG NUMBER: HCDJBL54050CSD-HCD8TRMW-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2746.3	2748.2	2745.3	2775.0	2816.1	2850.0
23°	2728.4	2731.2	2727.4	2758.5	2800.0	2835.9
23.5°	2710.0	2713.3	2710.0	2740.6	2784.0	2820.8
24°	2691.1	2694.9	2691.1	2722.7	2767.0	2805.7
24.5°	2672.2	2676.0	2671.8	2704.8	2750.0	2789.7
25°	2652.0	2656.2	2652.0	2685.0	2732.1	2773.6
25.5°	2631.7	2636.4	2631.7	2665.6	2714.2	2756.7
26°	2610.0	2615.7	2611.4	2645.4	2695.4	2738.7
26.5°	2589.3	2594.9	2589.7	2625.1	2676.5	2720.8
27°	2566.6	2572.7	2567.6	2603.9	2656.2	2702.4
27.5°	2544.0	2550.1	2545.4	2582.2	2635.9	2683.6
28°	2520.4	2527.0	2521.8	2559.5	2615.2	2664.2
28.5°	2495.4	2503.9	2498.7	2536.9	2594.0	2643.5
29°	2468.1	2478.9	2474.2	2513.8	2571.8	2622.7
29.5°	2439.8	2453.4	2448.7	2490.2	2548.7	2601.0
30°	2411.0	2426.6	2421.4	2466.2	2526.1	2579.4
30.5°	2380.4	2397.3	2392.6	2440.7	2502.5	2555.8
31°	2348.3	2367.2	2361.5	2413.4	2478.4	2532.7
31.5°	2314.3	2334.1	2330.4	2385.1	2453.4	2509.1
32°	2277.6	2299.3	2297.4	2354.4	2426.1	2484.6
32.5°	2238.9	2262.0	2262.9	2322.8	2398.3	2458.6
33°	2196.9	2221.4	2226.2	2288.9	2368.6	2431.8
33.5°	2147.9	2178.5	2185.1	2253.5	2337.4	2402.5
34°	2092.2	2128.6	2139.4	2214.8	2304.9	2373.3
34.5°	2030.0	2071.0	2083.3	2171.9	2269.5	2341.2
35°	1965.4	2006.0	2019.2	2122.4	2232.3	2307.3
35.5°	1898.4	1938.5	1950.3	2066.3	2190.8	2269.1
36°	1829.6	1873.9	1877.2	2005.5	2142.2	2229.9
36.5°	1763.6	1811.7	1803.2	1939.5	2087.5	2185.1
37°	1697.6	1746.6	1730.6	1871.6	2026.2	2133.3
37.5°	1630.6	1674.9	1660.8	1798.0	1958.8	2072.0
38°	1561.8	1600.4	1592.9	1722.1	1889.0	2006.0
38.5°	1487.3	1525.0	1520.7	1647.1	1817.3	1937.1
39°	1413.7	1452.8	1449.5	1571.7	1745.2	1868.3
39.5°	1338.2	1384.5	1377.4	1497.2	1669.7	1800.4
40°	1265.6	1317.5	1307.1	1419.3	1596.2	1732.5
40.5°	1191.6	1251.5	1236.9	1343.4	1522.1	1661.3
41°	1119.9	1182.6	1170.4	1268.9	1450.0	1590.5
41.5°	1050.1	1113.3	1104.4	1201.0	1380.2	1519.3
42°	980.3	1044.5	1037.9	1131.7	1309.5	1448.1
42.5°	911.0	978.9	974.2	1066.2	1235.4	1377.4
43°	844.5	916.7	912.9	1003.0	1166.1	1309.0
43.5°	783.7	854.0	852.6	942.6	1098.7	1241.1

TEST NUMBER: P776817

CATALOG NUMBER: HCDJBL54050CSD-HCD8TRMW-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	625.7	676.2	692.2	778.5	908.2	1037.9
45.5°	581.4	622.9	645.1	730.0	850.7	972.8
46°	540.9	575.3	601.2	684.2	795.5	908.7
46.5°	505.5	534.7	560.7	641.3	745.0	846.9
47°	474.4	499.8	523.4	600.7	695.5	786.5
47.5°	445.6	469.2	489.9	562.1	650.3	726.2
48°	423.4	442.8	459.8	526.2	607.3	672.9
48.5°	401.8	419.2	432.9	493.7	568.7	622.0
49°	379.6	397.5	407.4	463.1	531.9	575.8
49.5°	357.4	375.8	384.3	434.8	497.5	533.8
50°	335.7	355.5	362.6	407.4	466.4	499.8
50.5°	321.1	337.6	343.3	382.9	437.6	469.2
51°	307.0	322.5	326.8	360.3	411.2	441.4
51.5°	293.3	308.9	312.6	340.0	386.2	415.9
52°	279.6	295.2	299.0	324.0	363.6	393.7
52.5°	266.4	281.5	285.3	310.3	343.8	372.5
53°	253.7	267.8	271.6	296.1	327.3	352.2
53.5°	241.4	255.6	258.4	282.0	313.1	333.9
54°	230.6	243.3	246.1	268.3	298.5	319.7
54.5°	220.2	232.0	235.3	255.6	284.3	305.6
55°	210.3	221.6	224.5	243.3	270.7	290.9
55.5°	201.3	211.7	214.6	232.5	257.9	277.3
56°	192.4	202.3	204.7	221.6	245.7	264.1
56.5°	184.4	193.8	196.2	211.7	234.4	251.3
57°	176.8	185.3	187.7	202.8	223.5	239.1
57.5°	169.8	177.8	179.7	193.8	213.6	228.2
58°	162.2	170.2	172.6	185.8	204.2	217.4
58.5°	156.1	163.6	166.5	177.8	195.2	208.0
59°	149.5	157.5	159.9	170.2	186.7	198.5
59.5°	143.8	151.4	153.7	164.1	179.2	190.5
60°	138.2	145.2	147.6	158.0	171.6	182.0
60.5°	132.5	139.6	141.0	151.8	165.5	174.0
61°	127.3	133.9	135.3	145.7	159.4	167.4
61.5°	122.6	128.7	130.1	139.6	152.8	160.8
62°	117.9	124.0	125.4	134.4	146.7	154.2
62.5°	113.2	118.8	120.2	129.2	140.5	147.6
63°	108.5	114.1	115.5	124.0	134.9	141.0
63.5°	104.2	109.9	111.3	118.8	129.7	135.3
64°	100.4	105.6	106.6	114.6	124.0	129.7
64.5°	96.2	101.4	102.8	109.9	119.3	124.5
65°	92.4	97.6	98.6	105.6	114.6	119.3
65.5°	88.7	93.4	94.8	101.4	109.9	114.1
66°	85.3	89.6	90.5	97.6	105.6	109.9



TEST NUMBER: P776817

CATALOG NUMBER: HCDJBL54050CSD-HCD8TRMW-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	75.0	79.2	80.2	86.3	92.9	96.7
68°	72.1	75.9	76.9	82.5	89.1	92.4
68.5°	68.8	72.6	73.6	79.2	85.3	88.7
69°	66.0	69.8	70.7	75.9	81.6	84.9
69.5°	63.2	66.5	67.4	72.6	78.3	81.6
70°	60.4	63.7	64.6	69.8	75.0	77.8
70.5°	57.5	60.8	61.8	66.5	71.7	74.5
71°	54.7	58.0	58.9	63.7	68.4	71.2
71.5°	52.3	55.6	56.1	60.8	65.5	67.9
72°	50.0	52.8	53.3	58.0	62.2	65.1
72.5°	47.2	50.5	50.9	55.2	59.4	62.2
73°	44.8	47.6	48.6	52.8	56.6	59.4
73.5°	42.9	45.3	45.7	50.0	53.8	56.6
74°	40.1	42.9	43.4	47.6	51.4	53.8
74.5°	38.2	40.6	41.0	44.8	48.6	50.9
75°	35.8	38.2	39.1	42.4	46.2	48.6
75.5°	34.0	36.3	36.8	40.1	43.4	45.7
76°	31.6	34.0	34.4	38.2	41.5	43.4
76.5°	29.7	32.1	32.5	35.8	39.1	41.0
77°	27.8	29.7	30.2	33.5	36.8	38.7
77.5°	25.5	27.8	28.3	31.6	34.4	36.3
78°	24.0	25.9	26.4	29.2	32.1	34.4
78.5°	22.2	24.0	24.5	27.3	30.2	32.1
79°	20.3	22.2	22.6	25.5	27.8	30.2
79.5°	18.9	20.7	20.7	23.6	25.9	27.8
80°	17.0	18.9	19.3	21.7	24.0	25.9
80.5°	15.6	17.4	17.4	19.8	22.2	24.0
81°	13.7	15.6	16.0	18.4	20.3	22.2
81.5°	12.3	14.1	14.6	16.5	18.4	20.3
82°	10.8	12.7	13.2	15.1	17.0	18.9
82.5°	9.4	11.3	11.8	13.7	15.1	17.0
83°	8.0	9.9	9.9	11.8	13.7	15.6
83.5°	7.1	8.5	8.5	10.4	11.8	13.7
84°	5.7	7.1	7.5	9.0	10.4	12.3
84.5°	4.2	5.7	6.1	8.0	9.0	10.8
85°	3.3	4.7	4.7	6.6	7.5	9.4
85.5°	1.9	3.3	3.8	5.2	6.1	8.0
86°	0.9	2.4	2.4	4.2	5.2	6.6
86.5°	0.0	0.9	0.9	2.8	4.2	5.2
87°	0.0	0.0	0.0	1.9	3.3	4.2
87.5°	0.0	0.0	0.0	0.9	2.4	3.3
88°	0.0	0.0	0.0	0.0	1.4	2.4
88.5°	0.0	0.0	0.0	0.0	0.9	1.4



TEST NUMBER: P776817

CATALOG NUMBER: HCDJBL54050CSD-HCD8TRMW-5000lm-3500K

CANDELA DISTRIBUTION (continued):

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



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Cooper Lighting Solutions Photometric Lab
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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°	2876.9	2914.6	2952.8	2984.4	2987.7	2993.8	2972.6	2932.1	2893.4	2851.9	2812.3
22°	2863.2	2902.8	2941.5	2974.0	2976.9	2983.5	2960.8	2918.4	2879.7	2836.3	2796.7



44°	1173.2	1318.0	1449.5	1545.7	1510.4	1517.9	1390.6	1199.6	1063.3	917.6	796.9
44.5°	1104.4	1246.8	1374.1	1470.3	1434.9	1446.7	1312.8	1127.5	995.9	855.4	741.7



66.5°	105.2	112.7	119.3	122.6	116.9	115.1	107.0	97.1	90.5	86.8	84.4
67°	100.9	108.0	114.1	117.9	112.2	110.8	102.8	93.4	86.8	83.0	80.6



89°	0.5	2.4	4.2	6.1	4.7	4.7	2.4	0.5	0.0	0.0	0.0
89.5°	0.0	1.4	3.3	4.7	3.8	3.3	1.4	0.0	0.0	0.0	0.0

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21.5°	2779.8	2781.2	2778.8	2807.1	2845.8	2876.9
22°	2762.8	2765.1	2762.3	2792.0	2830.7	2863.2



44°	728.1	793.1	796.0	884.1	1031.7	1173.2
44.5°	674.8	732.8	741.3	830.9	968.6	1104.4



66.5°	81.6	86.3	87.2	93.4	100.9	105.2
67°	78.3	82.5	83.5	90.1	97.1	100.9

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89°	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

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Scaled Data Report



(END OF REPORT)