

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: P776507

Luminaire Tested: HCDJBL3040CSD-HCD8TRMW-4000lm-3500K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776507
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: HCDJBL3040CSD-HCD8TRMW-4000lm-3500K
Description: 8 INCH ROUND MEDIUM MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

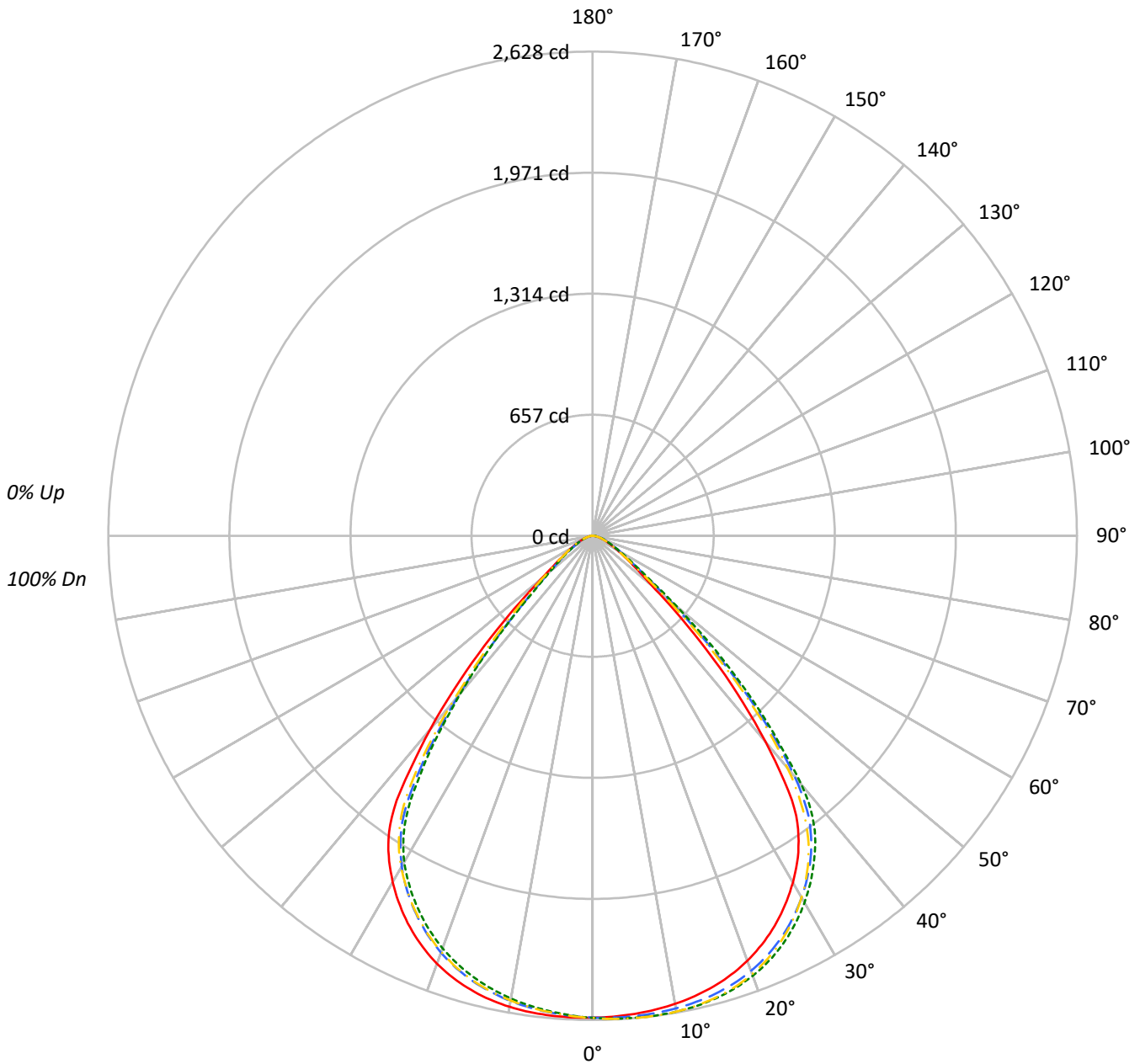
Lumens per Lamp: N/A
Luminaire Lumens: 4237.5 lumens
Efficiency: N/A
Efficacy: 110.1 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.22 / 1.18
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

Input Watts (W): 38.5
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	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	102	103	100	98	99	97	95	95	94	93	91			
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	84	82			
3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	81	78	75	74			
4	92	83	76	71	90	82	75	71	79	74	70	77	73	69	75	71	68	66			
5	86	76	69	64	84	75	68	64	73	67	63	71	66	62	70	65	62	60			
6	81	70	63	58	79	69	62	58	68	62	57	66	61	57	65	60	56	55			
7	76	65	58	53	74	64	57	52	63	56	52	61	56	52	60	55	51	50			
8	71	60	53	48	70	59	53	48	58	52	48	57	51	47	56	51	47	46			
9	67	56	49	44	66	55	48	44	54	48	44	53	48	44	52	47	43	42			
10	63	52	45	41	62	51	45	41	51	45	40	50	44	40	49	44	40	39			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	79870	79870	79870	79870
5°	79835	80491	80114	79446
10°	79983	81301	80485	79059
15°	80064	82109	80652	78468
20°	79756	82582	80272	77394
25°	78718	82333	79001	75387
30°	76609	81051	76486	72072
35°	72450	78358	71429	62987
40°	58172	70267	54609	44238
45°	37753	49523	33773	24598
50°	20001	28132	17398	14230
55°	13046	14952	11103	9938
60°	9367	10405	8029	7474
65°	7260	8033	6256	5938
70°	5856	6632	5035	4785
75°	4825	5674	4034	3798
80°	3850	4958	3006	2795
85°	2767	4589	1681	1401

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 50551 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	248.4	5.9
10°-20°	717.1	16.9
20°-30°	1075.6	25.4
30°-40°	1164.2	27.5
40°-50°	663.1	15.6
50°-60°	220.1	5.2
60°-70°	97.1	2.3
70°-80°	42.4	1.0
80°-90°	9.4	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°	2041.1	48.2
0°-40°	3205.4	75.6
0°-60°	4088.6	96.5
0°-90°	4237.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4237.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2616	2616	2616	2616	2616	
5°	2605	2626	2614	2592	2605	248
15°	2533	2598	2552	2483	2533	715
25°	2337	2444	2345	2238	2337	1074
35°	1944	2102	1916	1690	1944	1183
45°	874	1147	782	570	874	680
55°	245	281	209	187	245	229
65°	100	111	87	82	100	102
75°	41	48	34	32	41	44
85°	8	13	5	4	8	10
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°	2616.1	2616.1	2616.1	2616.1	2616.1	2616.1	2616.1	2616.1	2616.1	2616.1	2616.1
0.5°	2614.9	2615.7	2615.7	2616.1	2617.7	2618.9	2620.1	2618.5	2616.1	2614.9	2613.7
1°	2614.5	2615.7	2616.1	2616.9	2619.3	2620.5	2621.3	2619.3	2616.5	2614.5	2612.5
1.5°	2613.7	2615.3	2616.9	2618.1	2620.5	2622.1	2622.5	2620.1	2616.5	2614.1	2611.3
2°	2612.9	2615.3	2617.3	2619.3	2621.7	2623.7	2623.7	2620.9	2616.5	2613.3	2609.7
2.5°	2612.1	2614.9	2617.7	2620.1	2622.9	2624.4	2624.4	2621.3	2616.5	2612.5	2608.2
3°	2610.9	2614.5	2617.7	2620.9	2624.1	2626.0	2625.2	2621.7	2616.5	2611.3	2606.6
3.5°	2609.4	2614.1	2617.7	2621.7	2624.8	2626.8	2626.4	2621.7	2615.7	2610.5	2604.6
4°	2608.2	2613.3	2617.7	2622.1	2625.6	2627.6	2626.8	2622.1	2615.3	2609.4	2602.6
4.5°	2607.0	2612.1	2617.3	2622.5	2626.0	2628.4	2627.2	2622.1	2614.9	2607.8	2600.6
5°	2605.0	2610.9	2616.9	2622.5	2626.4	2628.8	2627.6	2621.7	2614.1	2606.2	2598.2
5.5°	2603.4	2610.1	2616.5	2622.9	2626.4	2629.2	2627.6	2621.3	2613.3	2604.6	2595.8
6°	2601.4	2608.6	2615.7	2622.9	2626.8	2629.6	2628.0	2620.9	2612.1	2602.6	2593.1
6.5°	2599.4	2607.4	2614.9	2622.5	2626.8	2629.6	2628.0	2620.1	2610.9	2600.6	2590.3
7°	2597.4	2605.4	2614.1	2622.1	2626.8	2629.6	2627.6	2619.3	2609.4	2598.2	2587.1
7.5°	2595.0	2603.8	2612.9	2621.7	2626.4	2629.6	2627.2	2618.5	2607.8	2595.8	2583.9
8°	2592.3	2601.8	2611.7	2620.9	2626.0	2629.2	2626.4	2617.3	2605.8	2593.5	2580.3
8.5°	2589.5	2599.8	2610.1	2620.1	2625.2	2628.8	2625.6	2615.7	2603.8	2590.3	2576.8
9°	2586.7	2597.4	2608.6	2618.9	2624.4	2628.4	2624.8	2614.1	2601.4	2587.5	2572.8
9.5°	2583.5	2594.7	2607.0	2618.1	2623.7	2627.2	2623.7	2612.1	2599.0	2583.9	2568.4
10°	2580.0	2591.9	2604.6	2616.5	2622.5	2626.4	2622.1	2610.1	2596.2	2580.3	2563.7
10.5°	2576.4	2589.1	2602.6	2615.3	2620.9	2624.8	2620.5	2607.8	2593.1	2576.4	2559.3
11°	2572.8	2585.9	2600.2	2613.3	2619.3	2623.3	2618.5	2605.4	2589.5	2572.0	2554.5
11.5°	2568.4	2582.3	2597.8	2611.7	2617.7	2621.7	2616.5	2602.6	2585.9	2568.0	2549.4
12°	2564.1	2578.8	2595.0	2609.7	2615.7	2619.7	2614.1	2599.4	2581.9	2563.3	2543.4
12.5°	2559.7	2575.2	2591.9	2607.4	2613.3	2617.7	2611.3	2595.8	2577.6	2558.1	2537.8
13°	2554.5	2570.8	2588.7	2604.6	2610.9	2615.3	2608.6	2591.9	2573.2	2552.5	2531.5
13.5°	2549.8	2566.4	2585.1	2602.2	2607.8	2612.5	2605.0	2587.9	2568.4	2547.0	2525.1
14°	2544.6	2561.7	2581.5	2599.0	2605.0	2609.4	2601.4	2583.5	2563.3	2541.0	2518.0
14.5°	2539.0	2556.9	2577.6	2595.8	2601.4	2606.2	2597.8	2578.8	2557.7	2534.7	2511.2
15°	2533.1	2552.1	2573.6	2592.3	2597.8	2602.6	2593.9	2573.6	2551.7	2527.5	2503.7
15.5°	2526.7	2546.6	2568.8	2588.3	2593.5	2598.6	2589.5	2568.4	2545.4	2520.4	2495.7
16°	2520.0	2541.0	2564.1	2583.9	2589.5	2594.3	2584.7	2562.5	2538.6	2512.8	2487.4
16.5°	2513.2	2535.1	2558.9	2579.6	2584.7	2589.9	2579.2	2556.1	2531.5	2504.9	2479.0
17°	2505.7	2528.7	2553.7	2574.8	2579.6	2585.1	2573.6	2549.4	2524.3	2496.5	2469.5
17.5°	2498.5	2521.9	2547.8	2569.6	2574.4	2580.0	2567.6	2542.2	2516.4	2488.2	2460.4
18°	2490.6	2515.2	2541.8	2563.7	2568.8	2574.4	2561.3	2534.7	2508.0	2478.6	2450.4
18.5°	2482.2	2507.6	2535.1	2558.1	2562.5	2568.0	2554.1	2527.1	2499.3	2469.1	2440.5
19°	2473.1	2500.1	2528.3	2551.7	2555.7	2561.3	2547.0	2518.8	2490.6	2459.2	2429.8
19.5°	2463.9	2492.2	2521.2	2545.0	2549.0	2554.9	2539.8	2510.0	2480.6	2448.8	2418.3
20°	2454.8	2483.4	2512.8	2537.8	2541.8	2547.4	2531.9	2500.5	2470.7	2437.7	2406.7
20.5°	2444.9	2474.7	2505.3	2530.3	2533.9	2539.4	2523.1	2491.0	2460.4	2426.6	2395.2
21°	2434.5	2465.5	2496.9	2522.7	2525.9	2531.1	2514.0	2480.6	2449.2	2414.7	2382.1

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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°	2401.2	2434.9	2468.7	2496.1	2498.5	2504.1	2484.2	2447.7	2413.9	2376.9	2342.4
23°	2389.3	2424.2	2458.8	2486.6	2489.0	2493.7	2473.5	2435.3	2401.2	2363.0	2327.7
23.5°	2376.5	2413.1	2448.1	2476.7	2478.6	2483.8	2461.6	2423.0	2387.3	2348.7	2313.0
24°	2363.8	2401.2	2436.5	2465.9	2467.5	2472.7	2450.0	2409.9	2373.8	2334.0	2297.9
24.5°	2350.3	2389.3	2425.8	2454.8	2456.0	2461.2	2437.7	2396.4	2359.9	2319.3	2282.0
25°	2336.8	2376.1	2413.5	2443.3	2444.1	2449.2	2425.0	2382.5	2345.2	2303.4	2265.7
25.5°	2322.5	2363.0	2401.2	2431.4	2431.8	2436.9	2411.5	2367.8	2329.7	2286.8	2249.0
26°	2307.4	2349.5	2387.7	2419.1	2419.4	2424.2	2397.6	2352.7	2313.4	2270.1	2231.5
26.5°	2292.3	2335.2	2375.0	2405.9	2405.5	2410.7	2382.9	2336.8	2297.5	2253.8	2214.5
27°	2276.8	2320.9	2361.0	2392.8	2392.0	2396.4	2368.2	2320.9	2280.8	2235.9	2195.8
27.5°	2260.9	2305.4	2346.3	2378.9	2377.7	2382.1	2352.7	2304.2	2263.7	2218.0	2177.1
28°	2244.6	2290.3	2332.0	2364.6	2363.0	2367.0	2336.8	2287.6	2245.8	2200.2	2157.6
28.5°	2227.2	2274.0	2316.2	2349.5	2347.5	2351.9	2320.1	2269.7	2227.6	2180.7	2138.2
29°	2209.7	2257.8	2300.7	2334.4	2332.0	2335.6	2302.6	2251.4	2208.9	2161.2	2117.1
29.5°	2191.4	2240.3	2284.0	2318.9	2315.8	2318.9	2285.2	2232.3	2189.4	2141.0	2094.9
30°	2173.1	2223.2	2267.7	2302.3	2299.1	2301.9	2266.9	2213.3	2169.6	2120.7	2071.8
30.5°	2153.3	2205.3	2249.8	2286.0	2281.6	2284.4	2248.6	2193.8	2148.5	2098.4	2047.6
31°	2133.8	2186.6	2232.3	2268.5	2263.7	2266.5	2229.2	2172.7	2128.2	2075.8	2023.0
31.5°	2113.9	2166.4	2214.1	2250.6	2245.0	2247.4	2209.3	2150.9	2105.6	2052.8	1996.7
32°	2093.3	2147.7	2195.0	2231.9	2227.6	2228.8	2188.2	2128.2	2083.0	2028.9	1969.3
32.5°	2071.4	2127.1	2175.5	2213.7	2207.7	2208.9	2166.0	2104.8	2059.5	2002.7	1939.9
33°	2048.8	2106.0	2156.1	2194.6	2187.8	2188.2	2142.9	2081.0	2035.3	1974.9	1908.1
33.5°	2024.2	2084.5	2135.8	2174.7	2167.2	2167.2	2119.9	2055.1	2008.7	1944.7	1872.8
34°	1999.5	2061.5	2114.3	2154.9	2146.5	2144.9	2094.5	2028.5	1980.9	1912.5	1833.1
34.5°	1972.5	2036.5	2091.3	2133.8	2124.7	2121.5	2069.4	2000.3	1950.7	1872.8	1789.4
35°	1943.9	2011.0	2068.3	2112.4	2102.4	2097.7	2042.4	1970.1	1916.5	1831.1	1741.3
35.5°	1911.7	1983.2	2042.8	2089.7	2079.4	2073.0	2014.2	1935.6	1877.2	1785.8	1688.5
36°	1878.7	1953.8	2017.0	2066.3	2055.9	2047.6	1982.8	1897.4	1835.0	1734.1	1632.4
36.5°	1841.0	1922.8	1988.8	2042.4	2030.1	2019.4	1949.5	1857.3	1787.0	1678.1	1574.8
37°	1797.3	1886.7	1959.4	2016.2	2003.1	1988.8	1913.7	1815.6	1731.8	1619.3	1516.0
37.5°	1745.7	1846.6	1926.8	1987.2	1972.1	1955.0	1874.4	1768.3	1670.6	1557.7	1454.1
38°	1690.0	1801.3	1889.5	1955.0	1938.7	1919.7	1833.1	1720.2	1607.4	1493.4	1390.9
38.5°	1632.0	1750.0	1848.2	1919.7	1901.4	1880.3	1790.9	1668.2	1543.8	1428.2	1326.5
39°	1574.0	1694.0	1804.5	1879.9	1861.3	1839.4	1744.9	1615.7	1485.0	1363.1	1262.6
39.5°	1516.8	1637.6	1756.8	1838.6	1815.2	1792.5	1696.8	1557.3	1427.8	1299.9	1198.6
40°	1459.6	1582.8	1705.5	1791.7	1763.1	1745.3	1644.4	1499.3	1370.2	1238.3	1134.2
40.5°	1399.6	1529.9	1649.9	1741.3	1700.8	1692.8	1591.9	1437.4	1310.2	1176.4	1071.1
41°	1340.0	1474.3	1591.5	1686.9	1636.8	1640.8	1537.5	1375.8	1247.9	1112.8	1008.7
41.5°	1280.0	1417.5	1531.9	1628.9	1571.3	1584.4	1482.3	1313.8	1186.3	1049.6	948.7
42°	1220.1	1357.9	1471.9	1566.5	1509.7	1524.8	1425.1	1254.6	1125.1	990.8	887.5
42.5°	1160.5	1295.1	1410.4	1501.7	1452.9	1462.8	1363.5	1192.2	1065.5	932.0	828.7
43°	1102.9	1232.8	1346.4	1434.6	1395.3	1401.6	1299.1	1131.1	1008.3	876.4	774.3
43.5°	1045.6	1171.2	1284.0	1369.4	1334.9	1339.2	1235.5	1069.5	952.3	822.8	720.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	874.4	990.4	1092.1	1170.8	1147.0	1156.5	1040.9	891.1	782.2	672.2	581.2
45.5°	819.6	930.8	1027.4	1109.2	1086.2	1096.1	974.9	833.1	728.6	624.1	539.9
46°	765.6	871.6	962.2	1045.3	1027.8	1034.9	916.1	776.3	676.6	580.0	503.4
46.5°	713.5	813.6	900.6	986.1	970.2	973.7	853.8	720.7	627.7	535.5	468.8
47°	662.7	757.2	839.5	927.3	912.6	913.7	796.6	668.2	582.0	496.2	437.4
47.5°	611.8	701.6	784.6	871.2	854.2	854.2	741.3	617.0	537.1	460.1	408.4
48°	566.9	650.0	730.6	816.8	796.6	796.9	689.3	568.9	495.0	427.1	382.6
48.5°	524.0	600.7	679.0	765.6	741.3	740.9	636.4	522.8	455.7	396.1	362.7
49°	485.1	554.2	631.7	713.5	688.9	685.3	588.4	481.1	419.9	373.8	342.5
49.5°	449.7	513.7	587.2	664.7	639.6	632.5	543.5	443.4	388.1	351.6	322.2
50°	421.1	475.1	546.3	616.6	592.3	580.8	501.8	409.6	366.3	329.3	301.9
50.5°	395.3	441.8	506.9	570.5	546.7	534.3	460.8	379.8	344.4	307.1	281.7
51°	371.9	412.0	471.6	528.0	501.0	490.2	425.5	357.2	322.6	285.2	269.0
51.5°	350.4	387.0	439.0	488.7	462.0	452.5	392.9	334.1	300.7	271.7	257.0
52°	331.7	363.5	409.2	452.1	424.7	417.1	369.9	311.1	279.3	259.8	245.5
52.5°	313.9	343.3	383.0	419.1	391.3	385.8	346.8	288.4	266.6	248.3	233.6
53°	296.8	324.2	358.0	389.7	369.1	361.9	324.2	273.7	254.7	236.4	222.5
53.5°	281.3	306.7	335.7	363.1	347.2	338.5	301.1	261.4	242.7	224.9	211.8
54°	269.4	290.0	314.6	338.1	325.0	314.6	278.5	249.5	231.2	213.7	201.8
54.5°	257.4	276.5	296.4	316.6	302.7	291.2	265.4	237.2	219.7	203.4	192.3
55°	245.1	263.8	280.5	296.8	280.9	276.5	253.1	225.3	208.6	193.5	183.1
55.5°	233.6	251.9	267.8	280.5	267.4	264.2	240.8	214.1	198.2	184.3	175.2
56°	222.5	240.0	255.1	267.4	255.5	251.5	228.4	203.0	189.1	176.0	167.3
56.5°	211.8	228.4	243.5	255.1	242.7	239.2	216.9	193.1	180.4	168.1	160.1
57°	201.4	217.3	231.2	242.7	230.4	227.2	206.2	183.9	171.6	160.9	153.4
57.5°	192.3	206.6	220.1	230.8	218.9	215.3	195.9	175.6	164.1	154.1	147.0
58°	183.1	196.7	209.0	218.9	207.8	204.6	186.3	167.3	156.9	147.4	141.0
58.5°	175.2	187.5	199.0	208.2	197.4	194.7	177.6	159.7	150.2	141.4	135.1
59°	167.3	179.2	189.5	197.8	187.9	185.1	169.2	152.6	143.8	135.5	129.5
59.5°	160.5	171.2	180.8	188.3	178.8	176.4	161.3	146.2	137.5	129.9	124.3
60°	153.4	163.7	172.4	179.6	170.4	168.1	154.1	140.2	131.5	124.7	119.6
60.5°	146.6	156.5	164.9	171.2	162.9	160.5	147.8	134.3	126.3	119.6	114.8
61°	141.0	150.2	157.7	163.3	155.7	153.4	141.4	128.7	120.8	114.8	110.4
61.5°	135.5	143.4	151.0	156.1	149.0	147.0	135.5	123.6	115.6	110.4	106.1
62°	129.9	138.3	144.6	149.4	142.6	140.2	129.9	118.4	110.8	105.7	102.1
62.5°	124.3	132.7	139.4	142.6	136.7	134.7	124.3	113.6	106.5	101.7	98.1
63°	118.8	127.5	133.9	137.5	130.7	128.7	119.6	109.3	102.1	97.7	94.2
63.5°	114.0	122.0	128.7	131.9	125.5	123.6	114.8	104.9	98.1	93.8	90.6
64°	109.3	116.8	123.2	126.7	120.4	118.8	110.0	100.5	93.8	89.8	87.0
64.5°	104.9	112.0	117.6	121.6	115.6	114.0	106.1	96.5	90.2	86.6	83.4
65°	100.5	107.3	113.2	116.4	111.2	109.6	101.7	92.6	86.6	82.6	80.3
65.5°	96.1	103.3	108.5	112.0	106.5	105.3	97.7	89.0	83.0	79.5	77.1
66°	92.6	98.9	104.5	107.7	102.5	101.3	93.8	85.4	79.5	76.3	73.9



TEST NUMBER: P776507

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	81.4	87.4	92.6	95.3	91.0	89.8	83.4	75.5	69.9	67.1	65.2
68°	77.9	83.8	89.0	91.8	87.4	86.2	80.3	72.3	67.1	64.4	62.4
68.5°	74.7	80.3	85.4	88.2	83.8	82.6	76.7	69.1	64.4	61.6	60.0
69°	71.5	77.1	81.8	84.6	80.6	79.5	73.9	66.3	61.6	58.8	57.2
69.5°	68.7	73.9	78.7	81.0	77.5	76.3	70.7	63.6	58.8	56.4	54.8
70°	65.6	70.7	75.5	77.9	74.3	73.1	67.9	60.8	56.4	53.6	52.4
70.5°	62.8	67.9	72.3	74.7	71.1	70.3	65.2	58.0	53.6	51.2	50.1
71°	60.0	64.8	69.5	71.9	68.3	67.5	62.4	55.6	51.2	48.9	47.7
71.5°	57.2	62.0	66.7	68.7	65.6	64.8	60.0	53.2	48.9	46.5	45.3
72°	54.8	59.6	64.0	65.9	62.8	62.0	57.2	50.9	46.5	44.1	43.3
72.5°	52.4	56.8	61.2	63.2	60.4	59.2	54.8	48.5	44.5	42.1	40.9
73°	50.1	54.4	58.4	60.8	57.6	56.8	52.4	46.1	42.1	40.1	38.9
73.5°	47.7	51.6	56.0	58.0	55.2	54.4	50.1	44.1	40.1	37.7	36.9
74°	45.3	49.3	53.6	55.6	52.8	52.0	47.7	41.7	38.1	35.8	35.0
74.5°	42.9	46.9	50.9	53.2	50.5	49.7	45.7	39.7	36.2	33.8	33.4
75°	40.9	44.9	48.9	50.9	48.1	47.3	43.3	37.7	34.2	32.2	31.4
75.5°	38.5	42.5	46.5	48.5	46.1	45.3	41.3	35.8	32.2	30.2	29.4
76°	36.5	40.1	44.1	46.5	43.7	43.3	39.3	33.8	30.2	28.2	27.8
76.5°	34.6	38.1	42.1	44.1	41.7	40.9	37.3	31.8	28.6	26.6	25.8
77°	32.6	36.2	39.7	42.1	39.7	38.9	35.4	30.2	26.6	24.6	24.2
77.5°	30.6	34.2	37.7	39.7	37.7	36.9	33.4	28.2	25.0	23.0	22.2
78°	29.0	32.2	35.8	37.7	35.8	35.0	31.4	26.2	23.0	21.5	20.7
78.5°	27.0	30.2	33.8	36.2	33.8	33.4	29.8	24.6	21.5	19.9	19.1
79°	25.4	28.6	32.2	34.2	31.8	31.4	27.8	23.0	19.9	18.3	17.9
79.5°	23.4	26.6	30.2	32.2	30.2	29.8	25.8	21.5	18.7	16.7	16.3
80°	21.9	25.0	28.2	30.2	28.2	27.8	24.2	19.9	17.1	15.1	14.7
80.5°	20.3	23.0	26.6	28.6	26.6	25.8	22.6	18.3	15.5	13.9	13.5
81°	18.7	21.5	24.6	26.6	25.0	24.6	21.1	16.7	14.3	12.3	11.9
81.5°	17.1	19.9	23.0	25.0	23.0	22.6	19.5	15.1	12.7	11.1	10.7
82°	15.9	18.3	21.5	23.4	21.5	21.1	18.3	13.9	11.5	9.9	9.5
82.5°	14.3	16.7	19.9	21.9	20.3	19.9	16.7	12.3	10.3	8.7	8.3
83°	13.1	15.5	18.3	20.3	18.7	18.3	15.1	11.1	9.1	7.5	7.2
83.5°	11.5	13.9	17.1	18.7	17.1	16.7	13.9	9.9	7.9	6.4	6.4
84°	10.3	12.7	15.5	17.5	15.9	15.5	12.7	8.7	6.8	5.2	5.2
84.5°	9.1	11.1	14.3	15.9	14.3	13.9	11.5	7.5	5.6	4.0	4.4
85°	7.9	9.9	12.7	14.7	13.1	12.7	9.9	6.4	4.8	3.2	3.2
85.5°	6.8	8.7	11.5	13.5	11.9	11.5	8.7	5.2	3.6	2.4	2.4
86°	5.6	7.5	9.9	11.9	10.7	10.3	7.9	4.4	2.8	2.0	1.6
86.5°	4.4	6.4	8.7	10.7	9.5	9.1	6.8	3.6	2.0	1.2	0.8
87°	3.6	5.2	7.9	9.5	8.3	7.9	5.6	2.8	1.6	0.8	0.0
87.5°	2.8	4.0	6.8	8.3	7.2	6.8	4.8	2.0	0.8	0.4	0.0
88°	2.0	3.2	5.6	7.2	6.0	6.0	4.0	1.6	0.4	0.0	0.0
88.5°	1.2	2.4	4.8	6.0	5.2	4.8	2.8	0.8	0.0	0.0	0.0



TEST NUMBER: P776507
CATALOG NUMBER: HCDJBL3040CSD-HCD8TRMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.4	2.0	3.2	2.0	2.0	0.4	0.0	0.0	0.0	0.0



TEST NUMBER: P776507

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2616.1	2616.1	2616.1	2616.1	2616.1	2616.1
0.5°	2612.9	2614.9	2615.3	2616.9	2616.5	2614.9
1°	2611.3	2612.9	2613.3	2615.3	2615.3	2614.5
1.5°	2609.4	2610.5	2611.3	2613.3	2613.7	2613.7
2°	2607.4	2608.6	2609.0	2611.3	2612.5	2612.9
2.5°	2605.0	2606.2	2606.6	2609.4	2610.9	2612.1
3°	2603.0	2603.8	2604.2	2607.0	2609.0	2610.9
3.5°	2600.2	2601.0	2601.4	2605.0	2607.4	2609.4
4°	2597.8	2598.2	2599.0	2602.6	2605.8	2608.2
4.5°	2595.0	2595.4	2595.8	2600.2	2603.8	2607.0
5°	2591.9	2592.3	2592.7	2597.4	2601.8	2605.0
5.5°	2588.7	2589.1	2589.5	2595.0	2599.4	2603.4
6°	2585.1	2585.1	2585.9	2591.9	2597.0	2601.4
6.5°	2581.5	2581.9	2582.3	2588.7	2594.3	2599.4
7°	2577.6	2578.0	2578.8	2585.5	2591.9	2597.4
7.5°	2573.6	2574.0	2574.4	2582.3	2589.1	2595.0
8°	2569.6	2569.2	2570.4	2578.4	2585.9	2592.3
8.5°	2564.9	2564.9	2566.0	2574.8	2582.7	2589.5
9°	2560.5	2560.1	2561.3	2570.8	2579.6	2586.7
9.5°	2555.3	2555.7	2556.1	2566.0	2576.0	2583.5
10°	2550.2	2550.2	2551.3	2561.7	2572.0	2580.0
10.5°	2545.0	2544.6	2545.8	2556.9	2568.0	2576.4
11°	2539.0	2539.0	2540.2	2552.1	2563.7	2572.8
11.5°	2533.1	2533.1	2533.9	2547.0	2559.3	2568.4
12°	2526.7	2526.7	2527.9	2541.4	2554.5	2564.1
12.5°	2520.4	2520.0	2521.2	2535.5	2549.0	2559.7
13°	2513.6	2513.2	2514.0	2529.1	2543.8	2554.5
13.5°	2506.5	2506.1	2507.2	2522.7	2538.2	2549.8
14°	2498.9	2498.5	2499.7	2516.0	2532.3	2544.6
14.5°	2491.0	2491.0	2491.8	2508.8	2525.9	2539.0
15°	2483.0	2482.6	2483.8	2501.3	2519.2	2533.1
15.5°	2474.7	2473.9	2475.1	2492.9	2512.4	2526.7
16°	2465.5	2465.5	2465.9	2484.6	2504.9	2520.0
16.5°	2456.4	2456.4	2456.8	2475.9	2497.3	2513.2
17°	2446.5	2446.9	2447.3	2466.7	2489.0	2505.7
17.5°	2436.9	2436.9	2436.9	2457.6	2480.6	2498.5
18°	2426.2	2427.0	2426.6	2447.3	2471.5	2490.6
18.5°	2415.5	2415.9	2415.5	2436.9	2462.4	2482.2
19°	2404.4	2404.8	2404.4	2425.8	2452.4	2473.1
19.5°	2392.4	2394.0	2392.8	2415.1	2442.1	2463.9
20°	2380.5	2382.1	2380.1	2402.8	2431.4	2454.8
20.5°	2368.2	2369.4	2367.8	2391.2	2420.6	2444.9
21°	2355.1	2356.7	2354.7	2378.5	2409.5	2434.5



TEST NUMBER: P776507

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2313.8	2315.4	2313.0	2338.0	2372.6	2401.2
23°	2298.7	2301.1	2297.9	2324.1	2359.1	2389.3
23.5°	2283.2	2286.0	2283.2	2309.0	2345.6	2376.5
24°	2267.3	2270.5	2267.3	2293.9	2331.3	2363.8
24.5°	2251.4	2254.6	2251.0	2278.8	2317.0	2350.3
25°	2234.3	2237.9	2234.3	2262.1	2301.9	2336.8
25.5°	2217.2	2221.2	2217.2	2245.8	2286.8	2322.5
26°	2199.0	2203.7	2200.2	2228.8	2270.9	2307.4
26.5°	2181.5	2186.2	2181.9	2211.7	2255.0	2292.3
27°	2162.4	2167.6	2163.2	2193.8	2237.9	2276.8
27.5°	2143.3	2148.5	2144.5	2175.5	2220.8	2260.9
28°	2123.5	2129.0	2124.7	2156.4	2203.3	2244.6
28.5°	2102.4	2109.6	2105.2	2137.4	2185.5	2227.2
29°	2079.4	2088.5	2084.5	2117.9	2166.8	2209.7
29.5°	2055.5	2067.1	2063.1	2098.0	2147.3	2191.4
30°	2031.3	2044.4	2040.0	2077.8	2128.2	2173.1
30.5°	2005.5	2019.8	2015.8	2056.3	2108.4	2153.3
31°	1978.5	1994.4	1989.6	2033.3	2088.1	2133.8
31.5°	1949.9	1966.5	1963.4	2009.5	2067.1	2113.9
32°	1918.9	1937.1	1935.6	1983.6	2044.0	2093.3
32.5°	1886.3	1905.8	1906.6	1957.0	2020.6	2071.4
33°	1850.9	1871.6	1875.6	1928.4	1995.5	2048.8
33.5°	1809.6	1835.4	1841.0	1898.6	1969.3	2024.2
34°	1762.7	1793.3	1802.5	1866.0	1941.9	1999.5
34.5°	1710.3	1744.9	1755.2	1829.9	1912.1	1972.5
35°	1655.9	1690.0	1701.2	1788.2	1880.7	1943.9
35.5°	1599.5	1633.2	1643.2	1740.9	1845.8	1911.7
36°	1541.5	1578.8	1581.6	1689.6	1804.9	1878.7
36.5°	1485.8	1526.4	1519.2	1634.0	1758.8	1841.0
37°	1430.2	1471.5	1458.0	1576.8	1707.1	1797.3
37.5°	1373.8	1411.1	1399.2	1514.8	1650.3	1745.7
38°	1315.8	1348.4	1342.0	1450.9	1591.5	1690.0
38.5°	1253.0	1284.8	1281.2	1387.7	1531.1	1632.0
39°	1191.1	1224.0	1221.2	1324.1	1470.3	1574.0
39.5°	1127.5	1166.4	1160.5	1261.4	1406.8	1516.8
40°	1066.3	1110.0	1101.3	1195.8	1344.8	1459.6
40.5°	1003.9	1054.4	1042.1	1131.9	1282.4	1399.6
41°	943.5	996.4	986.1	1069.1	1221.6	1340.0
41.5°	884.7	938.0	930.4	1011.9	1162.8	1280.0
42°	826.0	880.0	874.4	953.5	1103.3	1220.1
42.5°	767.5	824.8	820.8	898.3	1040.9	1160.5
43°	711.5	772.3	769.1	845.0	982.5	1102.9
43.5°	660.3	719.5	718.3	794.2	925.7	1045.6

TEST NUMBER: P776507

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	527.2	569.7	583.2	655.9	765.2	874.4
45.5°	489.8	524.8	543.5	615.0	716.7	819.6
46°	455.7	484.7	506.5	576.5	670.2	765.6
46.5°	425.9	450.5	472.4	540.3	627.7	713.5
47°	399.7	421.1	441.0	506.1	586.0	662.7
47.5°	375.4	395.3	412.8	473.6	547.9	611.8
48°	356.8	373.0	387.4	443.4	511.7	566.9
48.5°	338.5	353.2	364.7	416.0	479.1	524.0
49°	319.8	334.9	343.3	390.1	448.1	485.1
49.5°	301.1	316.6	323.8	366.3	419.1	449.7
50°	282.9	299.6	305.5	343.3	392.9	421.1
50.5°	270.5	284.5	289.2	322.6	368.7	395.3
51°	258.6	271.7	275.3	303.5	346.4	371.9
51.5°	247.1	260.2	263.4	286.4	325.4	350.4
52°	235.6	248.7	251.9	272.9	306.3	331.7
52.5°	224.5	237.2	240.4	261.4	289.6	313.9
53°	213.7	225.7	228.8	249.5	275.7	296.8
53.5°	203.4	215.3	217.7	237.6	263.8	281.3
54°	194.3	205.0	207.4	226.1	251.5	269.4
54.5°	185.5	195.5	198.2	215.3	239.6	257.4
55°	177.2	186.7	189.1	205.0	228.0	245.1
55.5°	169.6	178.4	180.8	195.9	217.3	233.6
56°	162.1	170.4	172.4	186.7	207.0	222.5
56.5°	155.3	163.3	165.3	178.4	197.4	211.8
57°	149.0	156.1	158.1	170.8	188.3	201.4
57.5°	143.0	149.8	151.4	163.3	180.0	192.3
58°	136.7	143.4	145.4	156.5	172.0	183.1
58.5°	131.5	137.9	140.2	149.8	164.5	175.2
59°	125.9	132.7	134.7	143.4	157.3	167.3
59.5°	121.2	127.5	129.5	138.3	151.0	160.5
60°	116.4	122.4	124.3	133.1	144.6	153.4
60.5°	111.6	117.6	118.8	127.9	139.4	146.6
61°	107.3	112.8	114.0	122.8	134.3	141.0
61.5°	103.3	108.5	109.6	117.6	128.7	135.5
62°	99.3	104.5	105.7	113.2	123.6	129.9
62.5°	95.3	100.1	101.3	108.9	118.4	124.3
63°	91.4	96.1	97.3	104.5	113.6	118.8
63.5°	87.8	92.6	93.8	100.1	109.3	114.0
64°	84.6	89.0	89.8	96.5	104.5	109.3
64.5°	81.0	85.4	86.6	92.6	100.5	104.9
65°	77.9	82.2	83.0	89.0	96.5	100.5
65.5°	74.7	78.7	79.9	85.4	92.6	96.1
66°	71.9	75.5	76.3	82.2	89.0	92.6



TEST NUMBER: P776507

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	63.2	66.7	67.5	72.7	78.3	81.4
68°	60.8	64.0	64.8	69.5	75.1	77.9
68.5°	58.0	61.2	62.0	66.7	71.9	74.7
69°	55.6	58.8	59.6	64.0	68.7	71.5
69.5°	53.2	56.0	56.8	61.2	65.9	68.7
70°	50.9	53.6	54.4	58.8	63.2	65.6
70.5°	48.5	51.2	52.0	56.0	60.4	62.8
71°	46.1	48.9	49.7	53.6	57.6	60.0
71.5°	44.1	46.9	47.3	51.2	55.2	57.2
72°	42.1	44.5	44.9	48.9	52.4	54.8
72.5°	39.7	42.5	42.9	46.5	50.1	52.4
73°	37.7	40.1	40.9	44.5	47.7	50.1
73.5°	36.2	38.1	38.5	42.1	45.3	47.7
74°	33.8	36.2	36.5	40.1	43.3	45.3
74.5°	32.2	34.2	34.6	37.7	40.9	42.9
75°	30.2	32.2	33.0	35.8	38.9	40.9
75.5°	28.6	30.6	31.0	33.8	36.5	38.5
76°	26.6	28.6	29.0	32.2	35.0	36.5
76.5°	25.0	27.0	27.4	30.2	33.0	34.6
77°	23.4	25.0	25.4	28.2	31.0	32.6
77.5°	21.5	23.4	23.8	26.6	29.0	30.6
78°	20.3	21.9	22.2	24.6	27.0	29.0
78.5°	18.7	20.3	20.7	23.0	25.4	27.0
79°	17.1	18.7	19.1	21.5	23.4	25.4
79.5°	15.9	17.5	17.5	19.9	21.9	23.4
80°	14.3	15.9	16.3	18.3	20.3	21.9
80.5°	13.1	14.7	14.7	16.7	18.7	20.3
81°	11.5	13.1	13.5	15.5	17.1	18.7
81.5°	10.3	11.9	12.3	13.9	15.5	17.1
82°	9.1	10.7	11.1	12.7	14.3	15.9
82.5°	7.9	9.5	9.9	11.5	12.7	14.3
83°	6.8	8.3	8.3	9.9	11.5	13.1
83.5°	6.0	7.2	7.2	8.7	9.9	11.5
84°	4.8	6.0	6.4	7.5	8.7	10.3
84.5°	3.6	4.8	5.2	6.8	7.5	9.1
85°	2.8	4.0	4.0	5.6	6.4	7.9
85.5°	1.6	2.8	3.2	4.4	5.2	6.8
86°	0.8	2.0	2.0	3.6	4.4	5.6
86.5°	0.0	0.8	0.8	2.4	3.6	4.4
87°	0.0	0.0	0.0	1.6	2.8	3.6
87.5°	0.0	0.0	0.0	0.8	2.0	2.8
88°	0.0	0.0	0.0	0.0	1.2	2.0
88.5°	0.0	0.0	0.0	0.0	0.8	1.2



TEST NUMBER: P776507
CATALOG NUMBER: HCDJBL3040CSD-HCD8TRMW-4000lm-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°	2423.8	2455.6	2487.8	2514.4	2517.2	2522.3	2504.5	2470.3	2437.7	2402.8	2369.4
22°	2412.3	2445.7	2478.2	2505.7	2508.0	2513.6	2494.5	2458.8	2426.2	2389.7	2356.3



44°	988.4	1110.4	1221.2	1302.3	1272.5	1278.9	1171.6	1010.7	895.9	773.1	671.4
44.5°	930.4	1050.4	1157.7	1238.7	1208.9	1218.9	1106.0	949.9	839.1	720.7	624.9



66.5°	88.6	95.0	100.5	103.3	98.5	96.9	90.2	81.8	76.3	73.1	71.1
67°	85.0	91.0	96.1	99.3	94.6	93.4	86.6	78.7	73.1	69.9	67.9



89°	0.4	2.0	3.6	5.2	4.0	4.0	2.0	0.4	0.0	0.0	0.0
89.5°	0.0	1.2	2.8	4.0	3.2	2.8	1.2	0.0	0.0	0.0	0.0

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21.5°	2342.0	2343.2	2341.2	2365.0	2397.6	2423.8
22°	2327.7	2329.7	2327.3	2352.3	2384.9	2412.3



44°	613.4	668.2	670.6	744.9	869.3	988.4
44.5°	568.5	617.4	624.5	700.0	816.0	930.4



66.5°	68.7	72.7	73.5	78.7	85.0	88.6
67°	65.9	69.5	70.3	75.9	81.8	85.0

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89°	0.0	0.0	0.0	0.0	0.0	0.4
89.5°	0.0	0.0	0.0	0.0	0.0	0.0

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(END OF REPORT)