

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: P776480

Luminaire Tested: HCDJBL3040CSD-HCD82TRMW-4000lm-2700K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776480
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B064-HCD82TRMW)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS3040CSD-HCD82TRMW-4000lm-2700K
Description: 8 INCH ROUND NARROW MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT
Ballast/Driver: -

Summary

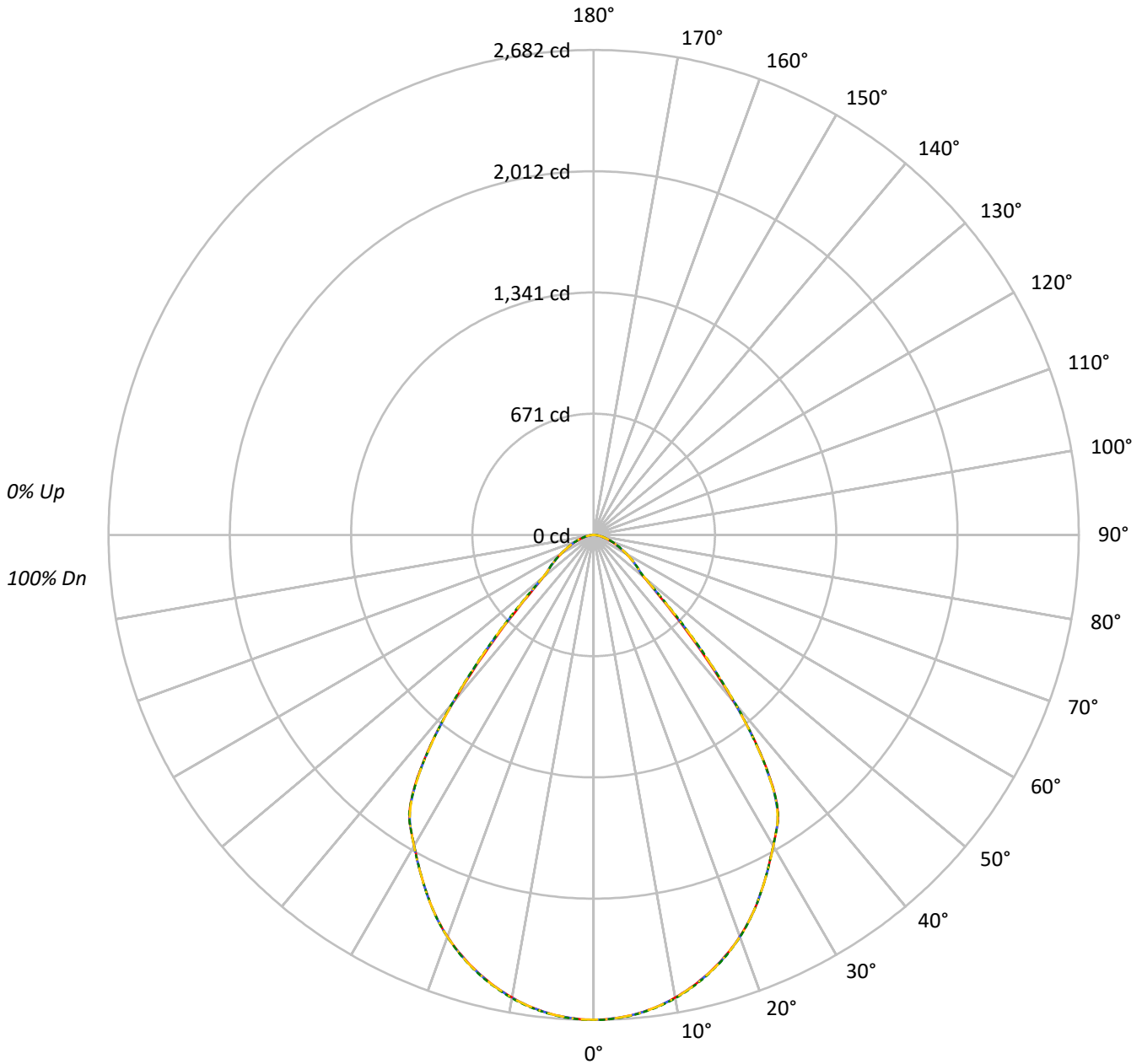
Lumens per Lamp: N/A
Luminaire Lumens: 4043.5 lumens
Efficiency: N/A
Efficacy: 105.0 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.12 / 1.12
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

Input Watts (W): 38.5
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



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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			
1	112	108	105	103	109	106	103	101	102	100	98	98	96	95	95	93	92	90					90			
2	105	99	93	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81					81			
3	98	90	84	79	96	88	83	78	86	81	77	83	79	75	81	77	74	72					72			
4	91	82	75	70	89	81	74	70	79	73	69	76	72	68	74	70	67	65					65			
5	86	75	68	63	84	74	68	63	72	67	62	71	65	61	69	64	61	59					59			
6	80	69	62	57	79	69	62	57	67	61	56	65	60	56	64	59	55	54					54			
7	75	64	57	52	74	63	57	52	62	56	51	61	55	51	59	55	51	49					49			
8	71	60	52	47	69	59	52	47	58	52	47	57	51	47	55	50	47	45					45			
9	67	55	48	44	66	55	48	44	54	48	43	53	47	43	52	47	43	42					42			
10	63	52	45	40	62	51	45	40	50	44	40	49	44	40	49	44	40	38					38			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	81861	81861	81861	81861
5°	81527	81597	81527	81597
10°	80541	80659	80541	80659
15°	78958	79081	78958	79081
20°	76796	76870	76796	76870
25°	73608	73622	73608	73622
30°	70006	70006	70006	70006
35°	65033	64907	65033	64907
40°	48064	48634	48064	48634
45°	28259	29636	28259	29636
50°	17294	17512	17294	17512
55°	14824	14845	14824	14845
60°	12640	12756	12640	12756
65°	10735	10988	10735	10988
70°	9123	9533	9123	9533
75°	7608	8198	7608	8198
80°	6083	6892	6083	6892
85°	3783	5254	3783	5254

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 29865 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	252.0	6.2
10°-20°	703.4	17.4
20°-30°	1004.4	24.8
30°-40°	1048.8	25.9
40°-50°	544.8	13.5
50°-60°	249.7	6.2
60°-70°	151.4	3.7
70°-80°	72.6	1.8
80°-90°	16.3	0.4
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°	1959.8	48.5
0°-40°	3008.6	74.4
0°-60°	3803.2	94.1
0°-90°	4043.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4043.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2681	2681	2681	2681	2681	
5°	2660	2662	2660	2662	2660	252
15°	2498	2502	2498	2502	2498	703
25°	2185	2186	2185	2186	2185	1004
35°	1745	1742	1745	1742	1745	1051
45°	654	686	654	686	654	532
55°	278	279	278	279	278	249
65°	149	152	149	152	149	149
75°	64	70	64	70	64	69
85°	11	15	11	15	11	14
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°	2681.3	2681.3	2681.3	2681.3	2681.3	2681.3	2681.3	2681.3	2681.3	2681.3	2681.3
0.5°	2681.0	2680.2	2681.0	2681.0	2682.5	2681.0	2681.0	2680.2	2681.0	2680.2	2681.0
1°	2680.6	2679.8	2680.6	2680.6	2681.7	2680.6	2680.6	2679.8	2680.6	2679.8	2680.6
1.5°	2679.4	2678.7	2679.4	2679.4	2681.0	2679.4	2679.4	2678.7	2679.4	2678.7	2679.4
2°	2677.9	2677.1	2677.9	2677.9	2679.4	2677.9	2677.9	2677.1	2677.9	2677.1	2677.9
2.5°	2676.0	2675.2	2676.0	2676.3	2677.5	2676.3	2676.0	2675.2	2676.0	2675.2	2676.0
3°	2673.7	2672.9	2673.7	2674.0	2675.6	2674.0	2673.7	2672.9	2673.7	2672.9	2673.7
3.5°	2671.0	2670.2	2671.0	2671.4	2672.9	2671.4	2671.0	2670.2	2671.0	2670.2	2671.0
4°	2667.5	2667.1	2667.9	2668.3	2669.8	2668.3	2667.9	2667.1	2667.5	2667.1	2667.9
4.5°	2664.1	2663.7	2664.4	2664.8	2666.4	2664.8	2664.4	2663.7	2664.1	2663.7	2664.4
5°	2660.2	2659.4	2660.2	2661.0	2662.5	2661.0	2660.2	2659.4	2660.2	2659.4	2660.2
5.5°	2655.6	2655.2	2656.0	2656.8	2658.3	2656.8	2656.0	2655.2	2655.6	2655.2	2656.0
6°	2651.0	2650.2	2651.4	2652.1	2653.3	2652.1	2651.4	2650.2	2651.0	2650.2	2651.4
6.5°	2645.6	2645.2	2646.4	2647.2	2648.3	2647.2	2646.4	2645.2	2645.6	2645.2	2646.4
7°	2640.2	2639.5	2640.6	2641.4	2642.9	2641.4	2640.6	2639.5	2640.2	2639.5	2640.6
7.5°	2634.1	2633.3	2634.9	2635.6	2637.2	2635.6	2634.9	2633.3	2634.1	2633.3	2634.9
8°	2627.6	2627.2	2628.3	2629.1	2631.0	2629.1	2628.3	2627.2	2627.6	2627.2	2628.3
8.5°	2620.7	2620.3	2621.8	2622.6	2624.1	2622.6	2621.8	2620.3	2620.7	2620.3	2621.8
9°	2613.7	2613.4	2614.5	2615.7	2617.2	2615.7	2614.5	2613.4	2613.7	2613.4	2614.5
9.5°	2605.7	2605.7	2606.8	2608.0	2609.5	2608.0	2606.8	2605.7	2605.7	2605.7	2606.8
10°	2598.0	2597.6	2599.1	2600.3	2601.8	2600.3	2599.1	2597.6	2598.0	2597.6	2599.1
10.5°	2589.5	2589.2	2590.7	2591.8	2593.8	2591.8	2590.7	2589.2	2589.5	2589.2	2590.7
11°	2580.7	2580.7	2581.9	2583.4	2584.9	2583.4	2581.9	2580.7	2580.7	2580.7	2581.9
11.5°	2571.9	2571.5	2573.0	2574.2	2575.7	2574.2	2573.0	2571.5	2571.9	2571.5	2573.0
12°	2562.3	2562.3	2563.4	2565.0	2566.5	2565.0	2563.4	2562.3	2562.3	2562.3	2563.4
12.5°	2552.3	2552.3	2553.8	2555.4	2556.5	2555.4	2553.8	2552.3	2552.3	2552.3	2553.8
13°	2542.3	2542.3	2543.8	2545.0	2546.5	2545.0	2543.8	2542.3	2542.3	2542.3	2543.8
13.5°	2531.5	2531.5	2533.1	2535.0	2535.8	2535.0	2533.1	2531.5	2531.5	2531.5	2533.1
14°	2521.2	2520.8	2522.3	2523.9	2525.0	2523.9	2522.3	2520.8	2521.2	2520.8	2522.3
14.5°	2509.7	2509.7	2511.2	2512.7	2513.9	2512.7	2511.2	2509.7	2509.7	2509.7	2511.2
15°	2498.1	2498.5	2500.0	2501.2	2502.0	2501.2	2500.0	2498.5	2498.1	2498.5	2500.0
15.5°	2486.2	2486.6	2488.1	2489.3	2490.1	2489.3	2488.1	2486.6	2486.2	2486.6	2488.1
16°	2474.3	2474.3	2475.9	2477.0	2477.8	2477.0	2475.9	2474.3	2474.3	2474.3	2475.9
16.5°	2462.0	2462.0	2463.6	2464.3	2465.5	2464.3	2463.6	2462.0	2462.0	2462.0	2463.6
17°	2449.0	2449.0	2450.5	2451.7	2452.4	2451.7	2450.5	2449.0	2449.0	2449.0	2450.5
17.5°	2435.5	2435.9	2437.4	2438.2	2439.0	2438.2	2437.4	2435.9	2435.5	2435.9	2437.4
18°	2422.1	2422.1	2423.6	2424.4	2425.2	2424.4	2423.6	2422.1	2422.1	2422.1	2423.6
18.5°	2408.3	2408.3	2409.8	2410.2	2410.9	2410.2	2409.8	2408.3	2408.3	2408.3	2409.8
19°	2393.7	2393.7	2395.2	2396.0	2396.3	2396.0	2395.2	2393.7	2393.7	2393.7	2395.2
19.5°	2378.7	2379.1	2380.2	2381.0	2381.4	2381.0	2380.2	2379.1	2378.7	2379.1	2380.2
20°	2363.7	2363.7	2364.8	2365.2	2366.0	2365.2	2364.8	2363.7	2363.7	2363.7	2364.8
20.5°	2347.9	2347.9	2349.1	2349.1	2349.9	2349.1	2349.1	2347.9	2347.9	2347.9	2349.1
21°	2331.8	2331.8	2333.0	2333.0	2333.4	2333.0	2333.0	2331.8	2331.8	2331.8	2333.0



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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°	2280.0	2280.0	2280.7	2280.3	2281.1	2280.3	2280.7	2280.0	2280.0	2280.0	2280.7
23°	2261.9	2261.9	2262.3	2262.3	2262.7	2262.3	2262.3	2261.9	2261.9	2261.9	2262.3
23.5°	2243.5	2243.5	2243.9	2243.5	2243.9	2243.5	2243.9	2243.5	2243.5	2243.5	2243.9
24°	2224.7	2224.3	2224.7	2224.3	2224.7	2224.3	2224.7	2224.3	2224.7	2224.3	2224.7
24.5°	2204.7	2204.7	2205.5	2205.1	2205.1	2205.1	2205.5	2204.7	2204.7	2204.7	2205.5
25°	2185.1	2185.1	2185.5	2185.5	2185.5	2185.5	2185.5	2185.1	2185.1	2185.1	2185.5
25.5°	2165.5	2165.1	2165.9	2165.5	2165.5	2165.5	2165.9	2165.1	2165.5	2165.1	2165.9
26°	2145.5	2145.1	2145.5	2145.9	2145.5	2145.9	2145.5	2145.1	2145.5	2145.1	2145.5
26.5°	2125.2	2125.6	2125.6	2125.6	2125.6	2125.6	2125.6	2125.6	2125.2	2125.6	2125.6
27°	2105.2	2105.2	2105.6	2105.6	2105.2	2105.6	2105.6	2105.2	2105.2	2105.2	2105.6
27.5°	2084.8	2084.8	2085.6	2085.6	2084.8	2085.6	2085.6	2084.8	2084.8	2084.8	2085.6
28°	2064.9	2064.9	2065.6	2065.3	2065.3	2065.3	2065.6	2064.9	2064.9	2064.9	2065.6
28.5°	2044.9	2044.9	2045.7	2045.3	2044.9	2045.3	2045.7	2044.9	2044.9	2044.9	2045.7
29°	2024.5	2025.3	2025.7	2025.3	2025.3	2025.3	2025.7	2025.3	2024.5	2025.3	2025.7
29.5°	2005.0	2005.3	2006.1	2006.1	2005.3	2006.1	2006.1	2005.3	2005.0	2005.3	2006.1
30°	1985.8	1986.1	1986.5	1986.5	1985.8	1986.5	1986.5	1986.1	1985.8	1986.1	1986.5
30.5°	1966.5	1967.3	1967.7	1967.3	1966.2	1967.3	1967.7	1967.3	1966.5	1967.3	1967.7
31°	1947.7	1948.1	1948.9	1948.5	1948.1	1948.5	1948.9	1948.1	1947.7	1948.1	1948.9
31.5°	1929.7	1929.7	1930.1	1929.7	1928.9	1929.7	1930.1	1929.7	1929.7	1929.7	1930.1
32°	1910.9	1910.9	1910.9	1910.5	1910.5	1910.5	1910.9	1910.9	1910.9	1910.9	1910.9
32.5°	1892.0	1890.5	1890.1	1889.7	1891.6	1889.7	1890.1	1890.5	1892.0	1890.5	1890.1
33°	1871.3	1867.5	1866.7	1865.5	1872.1	1865.5	1866.7	1867.5	1871.3	1867.5	1866.7
33.5°	1845.9	1840.2	1840.6	1838.3	1846.7	1838.3	1840.6	1840.2	1845.9	1840.2	1840.6
34°	1815.6	1809.1	1811.4	1806.8	1816.8	1806.8	1811.4	1809.1	1815.6	1809.1	1811.4
34.5°	1783.0	1773.7	1777.6	1773.0	1782.2	1773.0	1777.6	1773.7	1783.0	1773.7	1777.6
35°	1744.9	1736.5	1738.4	1735.3	1741.5	1735.3	1738.4	1736.5	1744.9	1736.5	1738.4
35.5°	1702.3	1697.7	1695.4	1692.7	1696.9	1692.7	1695.4	1697.7	1702.3	1697.7	1695.4
36°	1655.4	1656.2	1649.3	1646.2	1652.7	1646.2	1649.3	1656.2	1655.4	1656.2	1649.3
36.5°	1606.3	1609.7	1600.5	1597.1	1604.0	1597.1	1600.5	1609.7	1606.3	1609.7	1600.5
37°	1555.6	1558.6	1550.2	1545.6	1554.0	1545.6	1550.2	1558.6	1555.6	1558.6	1550.2
37.5°	1502.9	1502.9	1497.2	1493.0	1500.6	1493.0	1497.2	1502.9	1502.9	1502.9	1497.2
38°	1448.0	1444.2	1443.0	1439.6	1446.9	1439.6	1443.0	1444.2	1448.0	1444.2	1443.0
38.5°	1390.8	1383.9	1387.0	1384.3	1391.6	1384.3	1387.0	1383.9	1390.8	1383.9	1387.0
39°	1330.9	1324.3	1329.0	1328.6	1336.3	1328.6	1329.0	1324.3	1330.9	1324.3	1329.0
39.5°	1269.8	1265.2	1270.6	1272.1	1279.0	1272.1	1270.6	1265.2	1269.8	1265.2	1270.6
40°	1206.0	1207.2	1212.6	1216.8	1220.3	1216.8	1212.6	1207.2	1206.0	1207.2	1212.6
40.5°	1142.3	1148.0	1153.8	1161.1	1161.5	1161.1	1153.8	1148.0	1142.3	1148.0	1153.8
41°	1080.4	1090.1	1097.3	1105.8	1103.1	1105.8	1097.3	1090.1	1080.4	1090.1	1097.3
41.5°	1019.4	1030.5	1040.9	1050.9	1045.1	1050.9	1040.9	1030.5	1019.4	1030.5	1040.9
42°	961.0	972.5	984.8	995.6	989.4	995.6	984.8	972.5	961.0	972.5	984.8
42.5°	904.5	915.7	929.1	941.8	934.5	941.8	929.1	915.7	904.5	915.7	929.1
43°	849.6	860.7	875.7	888.4	882.3	888.4	875.7	860.7	849.6	860.7	875.7
43.5°	797.4	807.4	823.5	837.3	830.8	837.3	823.5	807.4	797.4	807.4	823.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	654.5	661.4	679.1	691.7	686.4	691.7	679.1	661.4	654.5	661.4	679.1
45.5°	612.6	618.8	635.7	647.6	643.4	647.6	635.7	618.8	612.6	618.8	635.7
46°	573.1	580.0	594.6	605.7	602.3	605.7	594.6	580.0	573.1	580.0	594.6
46.5°	537.0	544.6	555.0	566.5	563.8	566.5	555.0	544.6	537.0	544.6	555.0
47°	503.2	512.0	519.3	530.4	527.7	530.4	519.3	512.0	503.2	512.0	519.3
47.5°	473.2	482.4	486.3	497.0	493.9	497.0	486.3	482.4	473.2	482.4	486.3
48°	446.3	454.4	456.7	467.4	463.2	467.4	456.7	454.4	446.3	454.4	456.7
48.5°	422.1	428.6	430.6	439.8	434.8	439.8	430.6	428.6	422.1	428.6	430.6
49°	400.2	405.2	407.1	414.8	410.2	414.8	407.1	405.2	400.2	405.2	407.1
49.5°	381.4	384.9	387.2	392.9	387.5	392.9	387.2	384.9	381.4	384.9	387.2
50°	364.1	367.2	369.9	373.7	368.7	373.7	369.9	367.2	364.1	367.2	369.9
50.5°	349.9	352.2	354.5	357.6	352.6	357.6	354.5	352.2	349.9	352.2	354.5
51°	338.0	340.3	341.5	343.8	339.5	343.8	341.5	340.3	338.0	340.3	341.5
51.5°	328.0	329.9	331.1	331.9	329.2	331.9	331.1	329.9	328.0	329.9	331.1
52°	320.3	321.1	321.9	322.3	320.7	322.3	321.9	321.1	320.3	321.1	321.9
52.5°	313.0	313.4	313.8	313.8	313.8	313.8	313.8	313.4	313.0	313.4	313.8
53°	306.1	306.5	306.5	306.5	306.9	306.5	306.5	306.5	306.1	306.5	306.5
53.5°	299.6	299.6	299.6	299.2	300.0	299.2	299.6	299.6	299.6	299.6	299.6
54°	292.7	292.7	292.7	292.3	293.1	292.3	292.7	292.7	292.7	292.7	292.7
54.5°	285.8	285.8	285.8	285.4	286.1	285.4	285.8	285.8	285.8	285.8	285.8
55°	278.5	278.5	278.5	278.5	278.9	278.5	278.5	278.5	278.5	278.5	278.5
55.5°	271.2	271.2	271.6	271.2	271.6	271.2	271.6	271.2	271.2	271.2	271.6
56°	263.9	263.9	264.3	264.3	264.3	264.3	264.3	263.9	263.9	263.9	264.3
56.5°	256.6	257.0	257.0	257.0	257.0	257.0	257.0	256.6	257.0	257.0	257.0
57°	249.3	249.7	249.7	249.7	249.7	249.7	249.7	249.3	249.7	249.7	249.7
57.5°	242.0	242.4	242.7	242.7	242.7	242.7	242.7	242.4	242.0	242.4	242.7
58°	234.7	235.4	235.4	235.8	235.8	235.8	235.4	235.4	234.7	235.4	235.4
58.5°	227.4	228.5	228.5	228.9	228.9	228.9	228.5	228.5	227.4	228.5	228.5
59°	220.5	221.6	222.0	222.0	222.0	222.0	222.0	221.6	220.5	221.6	222.0
59.5°	213.9	215.1	215.5	215.5	215.5	215.5	215.5	215.1	213.9	215.1	215.5
60°	207.0	208.6	208.9	209.3	208.9	209.3	208.9	208.6	207.0	208.6	208.9
60.5°	200.5	202.0	202.8	202.8	202.8	202.8	202.8	202.0	200.5	202.0	202.8
61°	194.4	195.9	196.7	196.7	196.7	196.7	196.7	195.9	194.4	195.9	196.7
61.5°	188.2	189.7	190.5	190.9	190.9	190.9	190.5	189.7	188.2	189.7	190.5
62°	182.1	183.6	184.7	184.7	184.7	184.7	184.7	183.6	182.1	183.6	184.7
62.5°	176.3	177.8	179.0	179.0	179.0	179.0	179.0	177.8	176.3	177.8	179.0
63°	170.2	172.1	173.6	173.6	173.6	173.6	173.6	172.1	170.2	172.1	173.6
63.5°	164.8	166.7	167.8	168.2	168.2	168.2	167.8	166.7	164.8	166.7	167.8
64°	159.4	160.9	162.5	162.9	162.9	162.9	162.5	160.9	159.4	160.9	162.5
64.5°	154.0	155.6	157.5	157.5	157.5	157.5	157.5	155.6	154.0	155.6	157.5
65°	148.6	150.2	152.1	152.5	152.1	152.5	152.1	150.2	148.6	150.2	152.1
65.5°	143.7	145.2	147.1	147.5	147.5	147.5	147.1	145.2	143.7	145.2	147.1
66°	138.7	140.2	142.1	142.5	142.5	142.5	142.1	140.2	138.7	140.2	142.1



TEST NUMBER: P776480

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	124.1	126.0	127.9	128.7	128.3	128.7	127.9	126.0	124.1	126.0	127.9
68°	119.5	121.4	123.7	124.1	124.1	124.1	123.7	121.4	119.5	121.4	123.7
68.5°	115.2	116.8	119.1	119.5	119.5	119.5	119.1	116.8	115.2	116.8	119.1
69°	110.6	112.5	114.8	115.2	115.2	115.2	114.8	112.5	110.6	112.5	114.8
69.5°	106.4	107.9	110.6	111.0	111.0	111.0	110.6	107.9	106.4	107.9	110.6
70°	102.2	103.7	106.4	106.8	106.8	106.8	106.4	103.7	102.2	103.7	106.4
70.5°	97.9	99.5	102.2	102.6	102.6	102.6	102.2	99.5	97.9	99.5	102.2
71°	94.1	95.6	97.9	98.7	98.7	98.7	97.9	95.6	94.1	95.6	97.9
71.5°	89.9	91.4	94.1	94.9	94.5	94.9	94.1	91.4	89.9	91.4	94.1
72°	86.0	87.6	90.3	91.0	90.6	91.0	90.3	87.6	86.0	87.6	90.3
72.5°	82.2	83.7	86.4	87.2	86.8	87.2	86.4	83.7	82.2	83.7	86.4
73°	78.4	79.9	82.6	83.3	83.3	83.3	82.6	79.9	78.4	79.9	82.6
73.5°	74.9	76.4	79.1	79.9	79.9	79.9	79.1	76.4	74.9	76.4	79.1
74°	71.4	73.0	75.3	76.4	76.1	76.4	75.3	73.0	71.4	73.0	75.3
74.5°	68.0	69.1	71.8	73.0	72.6	73.0	71.8	69.1	68.0	69.1	71.8
75°	64.5	65.7	68.4	69.5	69.5	69.5	68.4	65.7	64.5	65.7	68.4
75.5°	61.1	62.6	64.9	66.1	66.1	66.1	64.9	62.6	61.1	62.6	64.9
76°	58.0	59.2	61.8	63.0	62.6	63.0	61.8	59.2	58.0	59.2	61.8
76.5°	54.5	56.1	58.4	59.5	59.5	59.5	58.4	56.1	54.5	56.1	58.4
77°	51.5	53.0	55.3	56.5	56.5	56.5	55.3	53.0	51.5	53.0	55.3
77.5°	48.8	49.9	52.2	53.4	53.4	53.4	52.2	49.9	48.8	49.9	52.2
78°	45.7	46.9	49.2	50.7	50.3	50.7	49.2	46.9	45.7	46.9	49.2
78.5°	42.6	43.8	46.5	47.6	47.6	47.6	46.5	43.8	42.6	43.8	46.5
79°	39.9	41.1	43.4	44.9	44.6	44.9	43.4	41.1	39.9	41.1	43.4
79.5°	37.3	38.0	40.7	41.9	41.9	41.9	40.7	38.0	37.3	38.0	40.7
80°	34.6	35.3	38.0	39.2	39.2	39.2	38.0	35.3	34.6	35.3	38.0
80.5°	31.9	32.6	35.3	36.5	36.5	36.5	35.3	32.6	31.9	32.6	35.3
81°	29.2	30.0	32.6	33.8	33.8	33.8	32.6	30.0	29.2	30.0	32.6
81.5°	26.9	27.3	30.0	31.5	31.5	31.5	30.0	27.3	26.9	27.3	30.0
82°	24.2	25.0	27.3	28.8	28.8	28.8	27.3	25.0	24.2	25.0	27.3
82.5°	21.9	22.3	25.0	26.5	26.5	26.5	25.0	22.3	21.9	22.3	25.0
83°	19.6	20.0	22.7	24.2	23.8	24.2	22.7	20.0	19.6	20.0	22.7
83.5°	17.3	17.7	20.4	21.5	21.5	21.5	20.4	17.7	17.3	17.7	20.4
84°	15.0	15.4	18.1	19.2	19.2	19.2	18.1	15.4	15.0	15.4	18.1
84.5°	12.7	13.1	15.7	17.3	17.3	17.3	15.7	13.1	12.7	13.1	15.7
85°	10.8	11.1	13.8	15.0	15.0	15.0	13.8	11.1	10.8	11.1	13.8
85.5°	8.8	9.2	11.9	12.7	12.7	12.7	11.9	9.2	8.8	9.2	11.9
86°	6.9	7.7	10.0	10.8	10.8	10.8	10.0	7.7	6.9	7.7	10.0
86.5°	5.4	6.1	8.1	8.8	8.8	8.8	8.1	6.1	5.4	6.1	8.1
87°	4.2	4.6	6.1	6.9	6.9	6.9	6.1	4.6	4.2	4.6	6.1
87.5°	3.1	3.5	4.6	5.4	5.0	5.4	4.6	3.5	3.1	3.5	4.6
88°	1.9	2.3	3.5	3.8	3.1	3.8	3.5	2.3	1.9	2.3	3.5
88.5°	1.2	1.5	2.3	2.7	1.9	2.7	2.3	1.5	1.2	1.5	2.3



TEST NUMBER: P776480
CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776480

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2681.3	2681.3	2681.3	2681.3	2681.3	2681.3
0.5°	2681.0	2682.5	2681.0	2681.0	2680.2	2681.0
1°	2680.6	2681.7	2680.6	2680.6	2679.8	2680.6
1.5°	2679.4	2681.0	2679.4	2679.4	2678.7	2679.4
2°	2677.9	2679.4	2677.9	2677.9	2677.1	2677.9
2.5°	2676.3	2677.5	2676.3	2676.0	2675.2	2676.0
3°	2674.0	2675.6	2674.0	2673.7	2672.9	2673.7
3.5°	2671.4	2672.9	2671.4	2671.0	2670.2	2671.0
4°	2668.3	2669.8	2668.3	2667.9	2667.1	2667.5
4.5°	2664.8	2666.4	2664.8	2664.4	2663.7	2664.1
5°	2661.0	2662.5	2661.0	2660.2	2659.4	2660.2
5.5°	2656.8	2658.3	2656.8	2656.0	2655.2	2655.6
6°	2652.1	2653.3	2652.1	2651.4	2650.2	2651.0
6.5°	2647.2	2648.3	2647.2	2646.4	2645.2	2645.6
7°	2641.4	2642.9	2641.4	2640.6	2639.5	2640.2
7.5°	2635.6	2637.2	2635.6	2634.9	2633.3	2634.1
8°	2629.1	2631.0	2629.1	2628.3	2627.2	2627.6
8.5°	2622.6	2624.1	2622.6	2621.8	2620.3	2620.7
9°	2615.7	2617.2	2615.7	2614.5	2613.4	2613.7
9.5°	2608.0	2609.5	2608.0	2606.8	2605.7	2605.7
10°	2600.3	2601.8	2600.3	2599.1	2597.6	2598.0
10.5°	2591.8	2593.8	2591.8	2590.7	2589.2	2589.5
11°	2583.4	2584.9	2583.4	2581.9	2580.7	2580.7
11.5°	2574.2	2575.7	2574.2	2573.0	2571.5	2571.9
12°	2565.0	2566.5	2565.0	2563.4	2562.3	2562.3
12.5°	2555.4	2556.5	2555.4	2553.8	2552.3	2552.3
13°	2545.0	2546.5	2545.0	2543.8	2542.3	2542.3
13.5°	2535.0	2535.8	2535.0	2533.1	2531.5	2531.5
14°	2523.9	2525.0	2523.9	2522.3	2520.8	2521.2
14.5°	2512.7	2513.9	2512.7	2511.2	2509.7	2509.7
15°	2501.2	2502.0	2501.2	2500.0	2498.5	2498.1
15.5°	2489.3	2490.1	2489.3	2488.1	2486.6	2486.2
16°	2477.0	2477.8	2477.0	2475.9	2474.3	2474.3
16.5°	2464.3	2465.5	2464.3	2463.6	2462.0	2462.0
17°	2451.7	2452.4	2451.7	2450.5	2449.0	2449.0
17.5°	2438.2	2439.0	2438.2	2437.4	2435.9	2435.5
18°	2424.4	2425.2	2424.4	2423.6	2422.1	2422.1
18.5°	2410.2	2410.9	2410.2	2409.8	2408.3	2408.3
19°	2396.0	2396.3	2396.0	2395.2	2393.7	2393.7
19.5°	2381.0	2381.4	2381.0	2380.2	2379.1	2378.7
20°	2365.2	2366.0	2365.2	2364.8	2363.7	2363.7
20.5°	2349.1	2349.9	2349.1	2349.1	2347.9	2347.9
21°	2333.0	2333.4	2333.0	2333.0	2331.8	2331.8



TEST NUMBER: P776480

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2280.3	2281.1	2280.3	2280.7	2280.0	2280.0
23°	2262.3	2262.7	2262.3	2262.3	2261.9	2261.9
23.5°	2243.5	2243.9	2243.5	2243.9	2243.5	2243.5
24°	2224.3	2224.7	2224.3	2224.7	2224.3	2224.7
24.5°	2205.1	2205.1	2205.1	2205.5	2204.7	2204.7
25°	2185.5	2185.5	2185.5	2185.5	2185.1	2185.1
25.5°	2165.5	2165.5	2165.5	2165.9	2165.1	2165.5
26°	2145.9	2145.5	2145.9	2145.5	2145.1	2145.5
26.5°	2125.6	2125.6	2125.6	2125.6	2125.6	2125.2
27°	2105.6	2105.2	2105.6	2105.6	2105.2	2105.2
27.5°	2085.6	2084.8	2085.6	2085.6	2084.8	2084.8
28°	2065.3	2065.3	2065.3	2065.6	2064.9	2064.9
28.5°	2045.3	2044.9	2045.3	2045.7	2044.9	2044.9
29°	2025.3	2025.3	2025.3	2025.7	2025.3	2024.5
29.5°	2006.1	2005.3	2006.1	2006.1	2005.3	2005.0
30°	1986.5	1985.8	1986.5	1986.5	1986.1	1985.8
30.5°	1967.3	1966.2	1967.3	1967.7	1967.3	1966.5
31°	1948.5	1948.1	1948.5	1948.9	1948.1	1947.7
31.5°	1929.7	1928.9	1929.7	1930.1	1929.7	1929.7
32°	1910.5	1910.5	1910.5	1910.9	1910.9	1910.9
32.5°	1889.7	1891.6	1889.7	1890.1	1890.5	1892.0
33°	1865.5	1872.1	1865.5	1866.7	1867.5	1871.3
33.5°	1838.3	1846.7	1838.3	1840.6	1840.2	1845.9
34°	1806.8	1816.8	1806.8	1811.4	1809.1	1815.6
34.5°	1773.0	1782.2	1773.0	1777.6	1773.7	1783.0
35°	1735.3	1741.5	1735.3	1738.4	1736.5	1744.9
35.5°	1692.7	1696.9	1692.7	1695.4	1697.7	1702.3
36°	1646.2	1652.7	1646.2	1649.3	1656.2	1655.4
36.5°	1597.1	1604.0	1597.1	1600.5	1609.7	1606.3
37°	1545.6	1554.0	1545.6	1550.2	1558.6	1555.6
37.5°	1493.0	1500.6	1493.0	1497.2	1502.9	1502.9
38°	1439.6	1446.9	1439.6	1443.0	1444.2	1448.0
38.5°	1384.3	1391.6	1384.3	1387.0	1383.9	1390.8
39°	1328.6	1336.3	1328.6	1329.0	1324.3	1330.9
39.5°	1272.1	1279.0	1272.1	1270.6	1265.2	1269.8
40°	1216.8	1220.3	1216.8	1212.6	1207.2	1206.0
40.5°	1161.1	1161.5	1161.1	1153.8	1148.0	1142.3
41°	1105.8	1103.1	1105.8	1097.3	1090.1	1080.4
41.5°	1050.9	1045.1	1050.9	1040.9	1030.5	1019.4
42°	995.6	989.4	995.6	984.8	972.5	961.0
42.5°	941.8	934.5	941.8	929.1	915.7	904.5
43°	888.4	882.3	888.4	875.7	860.7	849.6
43.5°	837.3	830.8	837.3	823.5	807.4	797.4



TEST NUMBER: P776480

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	691.7	686.4	691.7	679.1	661.4	654.5
45.5°	647.6	643.4	647.6	635.7	618.8	612.6
46°	605.7	602.3	605.7	594.6	580.0	573.1
46.5°	566.5	563.8	566.5	555.0	544.6	537.0
47°	530.4	527.7	530.4	519.3	512.0	503.2
47.5°	497.0	493.9	497.0	486.3	482.4	473.2
48°	467.4	463.2	467.4	456.7	454.4	446.3
48.5°	439.8	434.8	439.8	430.6	428.6	422.1
49°	414.8	410.2	414.8	407.1	405.2	400.2
49.5°	392.9	387.5	392.9	387.2	384.9	381.4
50°	373.7	368.7	373.7	369.9	367.2	364.1
50.5°	357.6	352.6	357.6	354.5	352.2	349.9
51°	343.8	339.5	343.8	341.5	340.3	338.0
51.5°	331.9	329.2	331.9	331.1	329.9	328.0
52°	322.3	320.7	322.3	321.9	321.1	320.3
52.5°	313.8	313.8	313.8	313.8	313.4	313.0
53°	306.5	306.9	306.5	306.5	306.5	306.1
53.5°	299.2	300.0	299.2	299.6	299.6	299.6
54°	292.3	293.1	292.3	292.7	292.7	292.7
54.5°	285.4	286.1	285.4	285.8	285.8	285.8
55°	278.5	278.9	278.5	278.5	278.5	278.5
55.5°	271.2	271.6	271.2	271.6	271.2	271.2
56°	264.3	264.3	264.3	264.3	263.9	263.9
56.5°	257.0	257.0	257.0	257.0	257.0	256.6
57°	249.7	249.7	249.7	249.7	249.7	249.3
57.5°	242.7	242.7	242.7	242.7	242.4	242.0
58°	235.8	235.8	235.8	235.4	235.4	234.7
58.5°	228.9	228.9	228.9	228.5	228.5	227.4
59°	222.0	222.0	222.0	222.0	221.6	220.5
59.5°	215.5	215.5	215.5	215.5	215.1	213.9
60°	209.3	208.9	209.3	208.9	208.6	207.0
60.5°	202.8	202.8	202.8	202.8	202.0	200.5
61°	196.7	196.7	196.7	196.7	195.9	194.4
61.5°	190.9	190.9	190.9	190.5	189.7	188.2
62°	184.7	184.7	184.7	184.7	183.6	182.1
62.5°	179.0	179.0	179.0	179.0	177.8	176.3
63°	173.6	173.6	173.6	173.6	172.1	170.2
63.5°	168.2	168.2	168.2	167.8	166.7	164.8
64°	162.9	162.9	162.9	162.5	160.9	159.4
64.5°	157.5	157.5	157.5	157.5	155.6	154.0
65°	152.5	152.1	152.5	152.1	150.2	148.6
65.5°	147.5	147.5	147.5	147.1	145.2	143.7
66°	142.5	142.5	142.5	142.1	140.2	138.7



TEST NUMBER: P776480

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	128.7	128.3	128.7	127.9	126.0	124.1
68°	124.1	124.1	124.1	123.7	121.4	119.5
68.5°	119.5	119.5	119.5	119.1	116.8	115.2
69°	115.2	115.2	115.2	114.8	112.5	110.6
69.5°	111.0	111.0	111.0	110.6	107.9	106.4
70°	106.8	106.8	106.8	106.4	103.7	102.2
70.5°	102.6	102.6	102.6	102.2	99.5	97.9
71°	98.7	98.7	98.7	97.9	95.6	94.1
71.5°	94.9	94.5	94.9	94.1	91.4	89.9
72°	91.0	90.6	91.0	90.3	87.6	86.0
72.5°	87.2	86.8	87.2	86.4	83.7	82.2
73°	83.3	83.3	83.3	82.6	79.9	78.4
73.5°	79.9	79.9	79.9	79.1	76.4	74.9
74°	76.4	76.1	76.4	75.3	73.0	71.4
74.5°	73.0	72.6	73.0	71.8	69.1	68.0
75°	69.5	69.5	69.5	68.4	65.7	64.5
75.5°	66.1	66.1	66.1	64.9	62.6	61.1
76°	63.0	62.6	63.0	61.8	59.2	58.0
76.5°	59.5	59.5	59.5	58.4	56.1	54.5
77°	56.5	56.5	56.5	55.3	53.0	51.5
77.5°	53.4	53.4	53.4	52.2	49.9	48.8
78°	50.7	50.3	50.7	49.2	46.9	45.7
78.5°	47.6	47.6	47.6	46.5	43.8	42.6
79°	44.9	44.6	44.9	43.4	41.1	39.9
79.5°	41.9	41.9	41.9	40.7	38.0	37.3
80°	39.2	39.2	39.2	38.0	35.3	34.6
80.5°	36.5	36.5	36.5	35.3	32.6	31.9
81°	33.8	33.8	33.8	32.6	30.0	29.2
81.5°	31.5	31.5	31.5	30.0	27.3	26.9
82°	28.8	28.8	28.8	27.3	25.0	24.2
82.5°	26.5	26.5	26.5	25.0	22.3	21.9
83°	24.2	23.8	24.2	22.7	20.0	19.6
83.5°	21.5	21.5	21.5	20.4	17.7	17.3
84°	19.2	19.2	19.2	18.1	15.4	15.0
84.5°	17.3	17.3	17.3	15.7	13.1	12.7
85°	15.0	15.0	15.0	13.8	11.1	10.8
85.5°	12.7	12.7	12.7	11.9	9.2	8.8
86°	10.8	10.8	10.8	10.0	7.7	6.9
86.5°	8.8	8.8	8.8	8.1	6.1	5.4
87°	6.9	6.9	6.9	6.1	4.6	4.2
87.5°	5.4	5.0	5.4	4.6	3.5	3.1
88°	3.8	3.1	3.8	3.5	2.3	1.9
88.5°	2.7	1.9	2.7	2.3	1.5	1.2



TEST NUMBER: P776480

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.4	0.0	0.4	0.4	0.0	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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Peachtree City, GA 30269

Scaled Data Report



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Scaled Data Report





21.5°	2314.9	2315.3	2316.1	2316.1	2316.5	2316.1	2316.1	2315.3	2314.9	2315.3	2316.1
22°	2298.0	2298.0	2298.4	2298.4	2299.2	2298.4	2298.4	2298.0	2298.0	2298.0	2298.4



44°	747.4	755.9	773.6	786.6	780.9	786.6	773.6	755.9	747.4	755.9	773.6
44.5°	700.2	707.1	725.2	738.6	732.5	738.6	725.2	707.1	700.2	707.1	725.2



66.5°	133.3	135.2	137.1	137.5	137.9	137.5	137.1	135.2	133.3	135.2	137.1
67°	128.7	130.2	132.5	133.3	133.3	133.3	132.5	130.2	128.7	130.2	132.5



89°	0.4	0.8	1.2	1.9	1.2	1.9	1.2	0.8	0.4	0.8	1.2
89.5°	0.0	0.4	0.8	1.2	0.4	1.2	0.8	0.4	0.0	0.4	0.8

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21.5°	2316.1	2316.5	2316.1	2316.1	2315.3	2314.9
22°	2298.4	2299.2	2298.4	2298.4	2298.0	2298.0



44°	786.6	780.9	786.6	773.6	755.9	747.4
44.5°	738.6	732.5	738.6	725.2	707.1	700.2

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66.5°	137.5	137.9	137.5	137.1	135.2	133.3
67°	133.3	133.3	133.3	132.5	130.2	128.7



89°	1.9	1.2	1.9	1.2	0.8	0.4
89.5°	1.2	0.4	1.2	0.8	0.4	0.0

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(END OF REPORT)