

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: P776788

Luminaire Tested: HCDJBS4050CSD-HCD82TRMB-5000lm-4000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776788
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B065-HCD82TRMB)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD82TRMB-5000lm-4000K
Description: 8 INCH ROUND NARROW MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

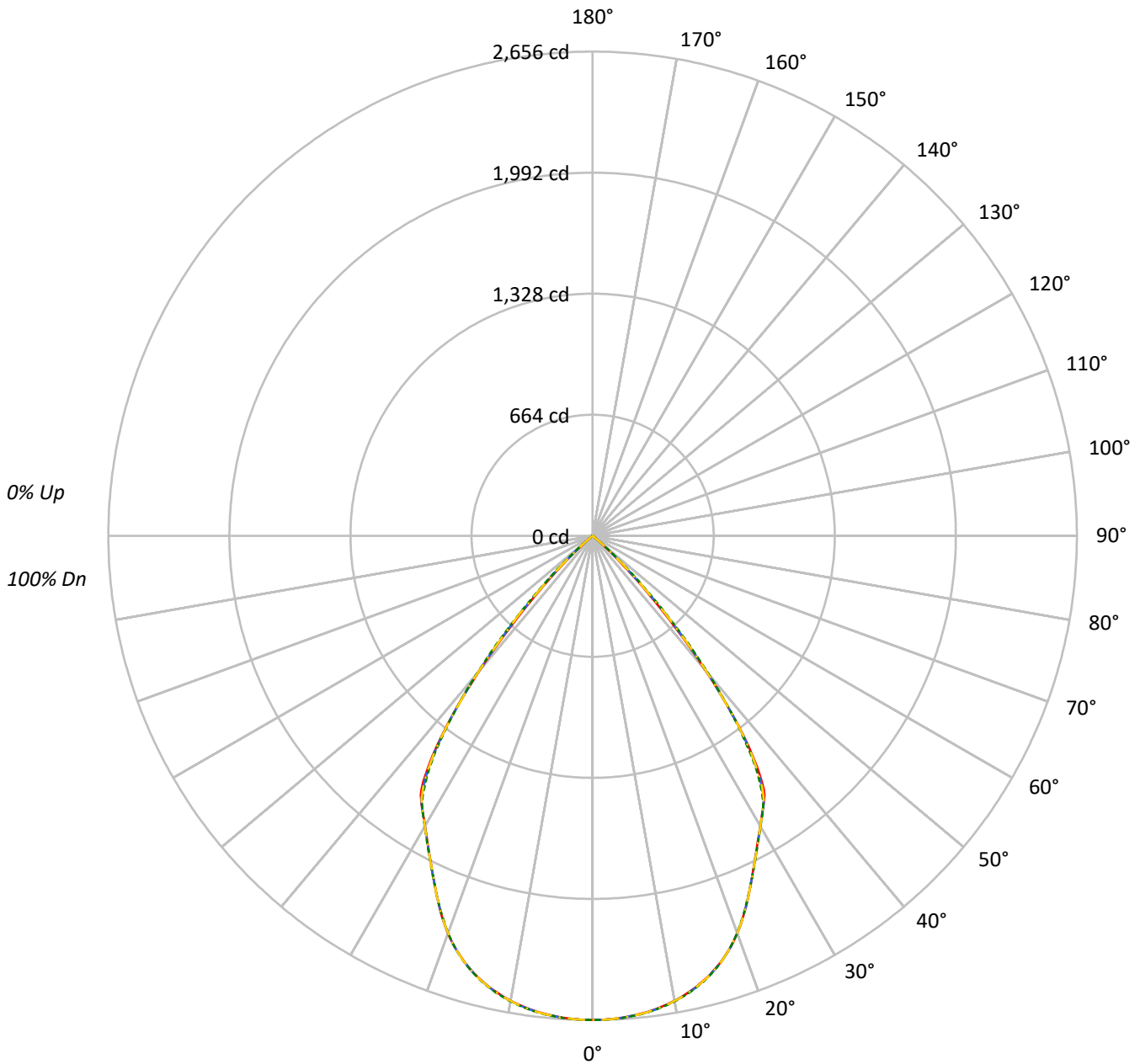
Lumens per Lamp: N/A
Luminaire Lumens: 3159.5 lumens
Efficiency: N/A
Efficacy: 65.8 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.06 / 1.08
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

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



TEST NUMBER: P776788
CATALOG NUMBER: HCDJBL54050CSD-HCD82TRMB-5000lm-4000K

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	113	110	108	105	111	108	106	104	104	102	101	100	99	98	97	96	95	93																			
2	107	102	98	94	105	100	97	93	97	94	91	94	92	89	91	89	87	86																			
3	101	95	89	85	99	93	88	85	91	86	83	88	85	82	86	83	81	79																			
4	96	88	82	77	94	87	81	77	84	80	76	82	78	75	81	77	74	73																			
5	90	82	75	71	89	81	75	70	79	74	70	77	73	69	75	72	69	67																			
6	85	76	70	65	84	75	69	65	74	68	64	72	67	64	71	67	63	62																			
7	81	71	64	60	79	70	64	60	69	63	59	68	63	59	66	62	59	57																			
8	76	66	60	55	75	66	60	55	64	59	55	63	58	55	62	58	55	53																			
9	72	62	56	51	71	61	55	51	60	55	51	60	55	51	59	54	51	49																			
10	68	58	52	48	67	58	52	48	57	51	48	56	51	47	55	51	47	46																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	81104	81104	81104	81104
5°	80914	80987	80914	80987
10°	80278	80396	80278	80396
15°	78731	78806	78731	78806
20°	75392	75314	75392	75314
25°	69640	69704	69640	69704
30°	64827	64930	64827	64930
35°	59514	58299	59514	58299
40°	38400	39468	38400	39468
45°	14093	16947	14093	16947
50°	1615	2593	1615	2593
55°	255	255	255	255
60°	147	147	147	147
65°	101	101	101	101
70°	89	89	89	89
75°	59	59	59	59
80°	0	0	0	0
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 16947 cd/sqm



TEST NUMBER: P776788

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRMB-5000lm-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	250.6	7.9
10°-20°	698.8	22.1
20°-30°	952.5	30.1
30°-40°	940.5	29.8
40°-50°	308.0	9.7
50°-60°	7.2	0.2
60°-70°	1.5	0.0
70°-80°	0.5	0.0
80°-90°	0.0	0.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1901.8	60.2
0°-40°	2842.3	90.0
0°-60°	3157.6	99.9
0°-90°	3159.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3159.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2656	2656	2656	2656	2656	
5°	2640	2643	2640	2643	2640	250
15°	2491	2493	2491	2493	2491	699
25°	2067	2069	2067	2069	2067	952
35°	1597	1564	1597	1564	1597	944
45°	326	392	326	392	326	289
55°	5	5	5	5	5	6
65°	1	1	1	1	1	1
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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CATALOG NUMBER: HCDJBL54050CSD-HCD82TRMB-5000lm-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2656.5	2656.5	2656.5	2656.5	2656.5	2656.5	2656.5	2656.5	2656.5	2656.5	2656.5
0.5°	2656.0	2656.0	2656.5	2656.0	2656.5	2656.0	2656.5	2656.0	2656.0	2656.0	2656.5
1°	2655.5	2655.5	2656.0	2655.5	2656.5	2655.5	2656.0	2655.5	2655.5	2655.5	2656.0
1.5°	2654.6	2655.0	2655.0	2655.0	2655.5	2655.0	2655.0	2655.0	2654.6	2655.0	2655.0
2°	2653.6	2653.6	2654.1	2654.1	2654.6	2654.1	2654.1	2653.6	2653.6	2653.6	2654.1
2.5°	2652.2	2652.6	2652.6	2652.6	2653.1	2652.6	2652.6	2652.6	2652.2	2652.6	2652.6
3°	2650.7	2650.7	2651.2	2651.2	2651.7	2651.2	2651.2	2650.7	2650.7	2650.7	2651.2
3.5°	2648.8	2648.8	2649.3	2649.3	2649.8	2649.3	2649.3	2648.8	2648.8	2648.8	2649.3
4°	2646.4	2646.4	2646.9	2646.9	2647.9	2646.9	2646.9	2646.4	2646.4	2646.4	2646.9
4.5°	2643.6	2643.6	2644.0	2644.5	2645.0	2644.5	2644.0	2643.6	2643.6	2643.6	2644.0
5°	2640.2	2640.7	2641.2	2641.6	2642.6	2641.6	2641.2	2640.7	2640.2	2640.7	2641.2
5.5°	2637.3	2637.3	2637.8	2638.3	2639.2	2638.3	2637.8	2637.3	2637.3	2637.3	2637.8
6°	2633.5	2633.5	2634.5	2634.9	2635.9	2634.9	2634.5	2633.5	2633.5	2633.5	2634.5
6.5°	2629.2	2629.7	2630.6	2631.1	2632.1	2631.1	2630.6	2629.7	2629.2	2629.7	2630.6
7°	2624.9	2624.9	2626.3	2626.8	2627.8	2626.8	2626.3	2624.9	2624.9	2624.9	2626.3
7.5°	2620.1	2620.1	2621.5	2622.0	2623.0	2622.0	2621.5	2620.1	2620.1	2620.1	2621.5
8°	2614.8	2615.3	2616.3	2617.2	2618.2	2617.2	2616.3	2615.3	2614.8	2615.3	2616.3
8.5°	2609.1	2609.6	2610.5	2611.5	2612.4	2611.5	2610.5	2609.6	2609.1	2609.6	2610.5
9°	2602.9	2603.3	2604.8	2605.7	2606.7	2605.7	2604.8	2603.3	2602.9	2603.3	2604.8
9.5°	2596.2	2596.6	2598.1	2599.5	2600.5	2599.5	2598.1	2596.6	2596.2	2596.6	2598.1
10°	2589.5	2589.9	2590.9	2592.3	2593.3	2592.3	2590.9	2589.9	2589.5	2589.9	2590.9
10.5°	2581.8	2582.3	2583.7	2585.2	2586.1	2585.2	2583.7	2582.3	2581.8	2582.3	2583.7
11°	2574.1	2574.6	2576.1	2577.0	2578.0	2577.0	2576.1	2574.6	2574.1	2574.6	2576.1
11.5°	2565.5	2566.0	2567.4	2568.4	2569.8	2568.4	2567.4	2566.0	2565.5	2566.0	2567.4
12°	2556.9	2556.9	2558.4	2559.8	2560.7	2559.8	2558.4	2556.9	2556.9	2556.9	2558.4
12.5°	2547.3	2547.3	2548.8	2550.2	2551.2	2550.2	2548.8	2547.3	2547.3	2547.3	2548.8
13°	2537.3	2537.8	2538.7	2540.2	2540.6	2540.2	2538.7	2537.8	2537.3	2537.8	2538.7
13.5°	2526.3	2526.8	2528.2	2529.2	2530.1	2529.2	2528.2	2526.8	2526.3	2526.8	2528.2
14°	2515.3	2515.8	2516.7	2517.7	2518.6	2517.7	2516.7	2515.8	2515.3	2515.8	2516.7
14.5°	2503.3	2503.8	2504.7	2505.7	2506.7	2505.7	2504.7	2503.8	2503.3	2503.8	2504.7
15°	2490.9	2490.9	2491.8	2492.8	2493.3	2492.8	2491.8	2490.9	2490.9	2490.9	2491.8
15.5°	2477.5	2477.5	2478.4	2479.4	2479.9	2479.4	2478.4	2477.5	2477.5	2477.5	2478.4
16°	2463.1	2463.6	2464.1	2464.5	2465.5	2464.5	2464.1	2463.6	2463.1	2463.6	2464.1
16.5°	2448.7	2448.7	2449.2	2449.7	2450.2	2449.7	2449.2	2448.7	2448.7	2448.7	2449.2
17°	2432.9	2432.9	2433.4	2433.9	2434.4	2433.9	2433.4	2432.9	2432.9	2432.9	2433.4
17.5°	2416.2	2416.2	2416.7	2416.7	2417.2	2416.7	2416.7	2416.2	2416.2	2416.2	2416.7
18°	2399.4	2399.0	2399.0	2399.0	2399.4	2399.0	2399.0	2399.0	2399.4	2399.0	2399.0
18.5°	2380.8	2380.8	2380.3	2380.3	2380.3	2380.3	2380.3	2380.8	2380.8	2380.8	2380.3
19°	2361.6	2361.6	2361.2	2360.7	2360.7	2360.7	2361.2	2361.6	2361.6	2361.6	2361.2
19.5°	2341.5	2341.0	2340.6	2340.1	2340.1	2340.1	2340.6	2341.0	2341.5	2341.0	2340.6
20°	2320.5	2320.0	2319.5	2318.6	2318.1	2318.6	2319.5	2320.0	2320.5	2320.0	2319.5
20.5°	2298.0	2297.5	2296.5	2295.6	2295.1	2295.6	2296.5	2297.5	2298.0	2297.5	2296.5
21°	2274.5	2274.5	2273.6	2271.6	2270.7	2271.6	2273.6	2274.5	2274.5	2274.5	2273.6



TEST NUMBER: P776788

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2199.4	2199.4	2198.4	2197.0	2197.0	2197.0	2198.4	2199.4	2199.4	2199.4	2198.4
23°	2173.0	2173.0	2172.6	2171.1	2171.1	2171.1	2172.6	2173.0	2173.0	2173.0	2172.6
23.5°	2146.2	2146.7	2146.2	2145.3	2145.3	2145.3	2146.2	2146.7	2146.2	2146.7	2146.2
24°	2119.4	2119.9	2119.9	2119.4	2119.9	2119.4	2119.9	2119.9	2119.4	2119.9	2119.9
24.5°	2093.6	2093.6	2094.1	2093.6	2094.5	2093.6	2094.1	2093.6	2093.6	2093.6	2094.1
25°	2067.3	2067.7	2068.2	2068.2	2069.2	2068.2	2068.2	2067.7	2067.3	2067.7	2068.2
25.5°	2042.4	2042.4	2042.9	2043.3	2044.3	2043.3	2042.9	2042.4	2042.4	2042.4	2042.9
26°	2017.5	2018.0	2018.4	2018.9	2019.9	2018.9	2018.4	2018.0	2017.5	2018.0	2018.4
26.5°	1993.1	1993.6	1994.0	1994.5	1995.9	1994.5	1994.0	1993.6	1993.1	1993.6	1994.0
27°	1969.6	1969.6	1970.6	1970.6	1972.0	1970.6	1970.6	1969.6	1969.6	1969.6	1970.6
27.5°	1946.2	1946.6	1947.1	1948.1	1949.0	1948.1	1947.1	1946.6	1946.2	1946.6	1947.1
28°	1923.2	1923.7	1924.6	1925.1	1926.5	1925.1	1924.6	1923.7	1923.2	1923.7	1924.6
28.5°	1901.2	1902.1	1902.6	1903.1	1904.5	1903.1	1902.6	1902.1	1901.2	1902.1	1902.6
29°	1880.1	1880.6	1881.1	1881.5	1883.0	1881.5	1881.1	1880.6	1880.1	1880.6	1881.1
29.5°	1859.1	1859.5	1860.5	1861.0	1861.9	1861.0	1860.5	1859.5	1859.1	1859.5	1860.5
30°	1838.9	1838.9	1839.9	1840.4	1841.8	1840.4	1839.9	1838.9	1838.9	1838.9	1839.9
30.5°	1818.8	1819.3	1819.8	1820.8	1821.7	1820.8	1819.8	1819.3	1818.8	1819.3	1819.8
31°	1799.7	1800.2	1801.1	1801.6	1803.1	1801.6	1801.1	1800.2	1799.7	1800.2	1801.1
31.5°	1781.5	1782.0	1782.0	1782.5	1783.4	1782.5	1782.0	1782.0	1781.5	1782.0	1782.0
32°	1763.8	1763.8	1763.8	1763.3	1764.3	1763.3	1763.8	1763.8	1763.8	1763.8	1763.8
32.5°	1746.6	1746.1	1745.1	1743.2	1741.3	1743.2	1745.1	1746.1	1746.6	1746.1	1745.1
33°	1727.9	1726.9	1722.2	1717.4	1712.1	1717.4	1722.2	1726.9	1727.9	1726.9	1722.2
33.5°	1707.8	1703.0	1693.9	1685.8	1679.1	1685.8	1693.9	1703.0	1707.8	1703.0	1693.9
34°	1679.1	1672.9	1660.4	1649.9	1642.7	1649.9	1660.4	1672.9	1679.1	1672.9	1660.4
34.5°	1641.3	1636.0	1622.1	1612.1	1604.9	1612.1	1622.1	1636.0	1641.3	1636.0	1622.1
35°	1596.8	1591.5	1579.0	1570.9	1564.2	1570.9	1579.0	1591.5	1596.8	1591.5	1579.0
35.5°	1547.9	1545.1	1533.6	1525.0	1518.3	1525.0	1533.6	1545.1	1547.9	1545.1	1533.6
36°	1495.8	1493.4	1483.8	1475.2	1468.0	1475.2	1483.8	1493.4	1495.8	1493.4	1483.8
36.5°	1440.2	1438.3	1430.2	1421.1	1413.4	1421.1	1430.2	1438.3	1440.2	1438.3	1430.2
37°	1378.0	1376.6	1371.8	1365.1	1357.4	1365.1	1371.8	1376.6	1378.0	1376.6	1371.8
37.5°	1313.9	1312.0	1310.0	1305.7	1299.5	1305.7	1310.0	1312.0	1313.9	1312.0	1310.0
38°	1245.9	1243.0	1244.0	1243.5	1240.6	1243.5	1244.0	1243.0	1245.9	1243.0	1244.0
38.5°	1179.9	1175.5	1176.5	1178.9	1181.3	1178.9	1176.5	1175.5	1179.9	1175.5	1176.5
39°	1108.5	1107.1	1108.1	1113.8	1120.0	1113.8	1108.1	1107.1	1108.5	1107.1	1108.1
39.5°	1037.7	1038.7	1040.6	1047.8	1056.4	1047.8	1040.6	1038.7	1037.7	1038.7	1040.6
40°	963.5	968.3	972.6	982.2	990.3	982.2	972.6	968.3	963.5	968.3	972.6
40.5°	892.2	898.9	907.0	917.6	924.7	917.6	907.0	898.9	892.2	898.9	907.0
41°	819.0	828.1	841.5	853.4	860.6	853.4	841.5	828.1	819.0	828.1	841.5
41.5°	749.6	759.1	775.4	789.8	796.5	789.8	775.4	759.1	749.6	759.1	775.4
42°	681.6	690.2	709.4	726.6	732.8	726.6	709.4	690.2	681.6	690.2	709.4
42.5°	615.5	626.1	647.6	664.8	670.6	664.8	647.6	626.1	615.5	626.1	647.6
43°	551.9	563.8	585.4	603.6	609.8	603.6	585.4	563.8	551.9	563.8	585.4
43.5°	492.5	504.0	525.1	543.7	552.4	543.7	525.1	504.0	492.5	504.0	525.1



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CATALOG NUMBER: HCDJBL54050CSD-HCD82TRMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	326.4	336.5	358.5	380.5	392.5	380.5	358.5	336.5	326.4	336.5	358.5
45.5°	276.2	288.1	310.6	333.6	344.6	333.6	310.6	288.1	276.2	288.1	310.6
46°	232.1	242.2	267.6	290.1	303.5	290.1	267.6	242.2	232.1	242.2	267.6
46.5°	192.4	202.9	226.9	248.4	262.8	248.4	226.9	202.9	192.4	202.9	226.9
47°	161.3	167.5	187.6	209.2	221.6	209.2	187.6	167.5	161.3	167.5	187.6
47.5°	131.6	135.5	153.6	172.3	180.4	172.3	153.6	135.5	131.6	135.5	153.6
48°	104.8	108.7	122.5	139.3	147.9	139.3	122.5	108.7	104.8	108.7	122.5
48.5°	84.2	86.2	98.1	110.6	118.2	110.6	98.1	86.2	84.2	86.2	98.1
49°	63.2	65.6	75.6	87.6	91.9	87.6	75.6	65.6	63.2	65.6	75.6
49.5°	47.9	48.8	55.5	66.1	71.8	66.1	55.5	48.8	47.9	48.8	55.5
50°	34.0	33.0	42.1	51.7	54.6	51.7	42.1	33.0	34.0	33.0	42.1
50.5°	21.1	23.0	29.7	38.8	44.0	38.8	29.7	23.0	21.1	23.0	29.7
51°	11.5	15.3	20.6	25.8	33.5	25.8	20.6	15.3	11.5	15.3	20.6
51.5°	9.1	9.6	13.4	16.8	24.9	16.8	13.4	9.6	9.1	9.6	13.4
52°	7.7	8.1	8.6	10.5	16.3	10.5	8.6	8.1	7.7	8.1	8.6
52.5°	6.2	7.2	7.2	8.1	7.7	8.1	7.2	7.2	6.2	7.2	7.2
53°	6.2	6.2	6.7	6.7	6.2	6.7	6.7	6.2	6.2	6.2	6.7
53.5°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
54°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
54.5°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
55°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
55.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
56°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
56.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
57°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
57.5°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
58°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
58.5°	2.9	3.4	3.4	3.4	3.4	3.4	3.4	3.4	2.9	3.4	3.4
59°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
59.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
60°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
60.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
61°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
61.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
62°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
62.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
63°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
63.5°	1.4	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.4	1.9	1.9
64°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
64.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
65°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
65.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
66°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4



TEST NUMBER: P776788

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
68°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
68.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
69°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
69.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
70°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
70.5°	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.0	1.0
71°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
71.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
72°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
72.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
73°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
73.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
74°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
74.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
75°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
75.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
76°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
76.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
77°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
77.5°	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.5	0.5
78°	0.0	0.0	0.0	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776788
CATALOG NUMBER: HCDJBL54050CSD-HCD82TRMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776788

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2656.5	2656.5	2656.5	2656.5	2656.5	2656.5
0.5°	2656.0	2656.5	2656.0	2656.5	2656.0	2656.0
1°	2655.5	2656.5	2655.5	2656.0	2655.5	2655.5
1.5°	2655.0	2655.5	2655.0	2655.0	2655.0	2654.6
2°	2654.1	2654.6	2654.1	2654.1	2653.6	2653.6
2.5°	2652.6	2653.1	2652.6	2652.6	2652.6	2652.2
3°	2651.2	2651.7	2651.2	2651.2	2650.7	2650.7
3.5°	2649.3	2649.8	2649.3	2649.3	2648.8	2648.8
4°	2646.9	2647.9	2646.9	2646.9	2646.4	2646.4
4.5°	2644.5	2645.0	2644.5	2644.0	2643.6	2643.6
5°	2641.6	2642.6	2641.6	2641.2	2640.7	2640.2
5.5°	2638.3	2639.2	2638.3	2637.8	2637.3	2637.3
6°	2634.9	2635.9	2634.9	2634.5	2633.5	2633.5
6.5°	2631.1	2632.1	2631.1	2630.6	2629.7	2629.2
7°	2626.8	2627.8	2626.8	2626.3	2624.9	2624.9
7.5°	2622.0	2623.0	2622.0	2621.5	2620.1	2620.1
8°	2617.2	2618.2	2617.2	2616.3	2615.3	2614.8
8.5°	2611.5	2612.4	2611.5	2610.5	2609.6	2609.1
9°	2605.7	2606.7	2605.7	2604.8	2603.3	2602.9
9.5°	2599.5	2600.5	2599.5	2598.1	2596.6	2596.2
10°	2592.3	2593.3	2592.3	2590.9	2589.9	2589.5
10.5°	2585.2	2586.1	2585.2	2583.7	2582.3	2581.8
11°	2577.0	2578.0	2577.0	2576.1	2574.6	2574.1
11.5°	2568.4	2569.8	2568.4	2567.4	2566.0	2565.5
12°	2559.8	2560.7	2559.8	2558.4	2556.9	2556.9
12.5°	2550.2	2551.2	2550.2	2548.8	2547.3	2547.3
13°	2540.2	2540.6	2540.2	2538.7	2537.8	2537.3
13.5°	2529.2	2530.1	2529.2	2528.2	2526.8	2526.3
14°	2517.7	2518.6	2517.7	2516.7	2515.8	2515.3
14.5°	2505.7	2506.7	2505.7	2504.7	2503.8	2503.3
15°	2492.8	2493.3	2492.8	2491.8	2490.9	2490.9
15.5°	2479.4	2479.9	2479.4	2478.4	2477.5	2477.5
16°	2464.5	2465.5	2464.5	2464.1	2463.6	2463.1
16.5°	2449.7	2450.2	2449.7	2449.2	2448.7	2448.7
17°	2433.9	2434.4	2433.9	2433.4	2432.9	2432.9
17.5°	2416.7	2417.2	2416.7	2416.7	2416.2	2416.2
18°	2399.0	2399.4	2399.0	2399.0	2399.0	2399.4
18.5°	2380.3	2380.3	2380.3	2380.3	2380.8	2380.8
19°	2360.7	2360.7	2360.7	2361.2	2361.6	2361.6
19.5°	2340.1	2340.1	2340.1	2340.6	2341.0	2341.5
20°	2318.6	2318.1	2318.6	2319.5	2320.0	2320.5
20.5°	2295.6	2295.1	2295.6	2296.5	2297.5	2298.0
21°	2271.6	2270.7	2271.6	2273.6	2274.5	2274.5



TEST NUMBER: P776788

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2197.0	2197.0	2197.0	2198.4	2199.4	2199.4
23°	2171.1	2171.1	2171.1	2172.6	2173.0	2173.0
23.5°	2145.3	2145.3	2145.3	2146.2	2146.7	2146.2
24°	2119.4	2119.9	2119.4	2119.9	2119.9	2119.4
24.5°	2093.6	2094.5	2093.6	2094.1	2093.6	2093.6
25°	2068.2	2069.2	2068.2	2068.2	2067.7	2067.3
25.5°	2043.3	2044.3	2043.3	2042.9	2042.4	2042.4
26°	2018.9	2019.9	2018.9	2018.4	2018.0	2017.5
26.5°	1994.5	1995.9	1994.5	1994.0	1993.6	1993.1
27°	1970.6	1972.0	1970.6	1970.6	1969.6	1969.6
27.5°	1948.1	1949.0	1948.1	1947.1	1946.6	1946.2
28°	1925.1	1926.5	1925.1	1924.6	1923.7	1923.2
28.5°	1903.1	1904.5	1903.1	1902.6	1902.1	1901.2
29°	1881.5	1883.0	1881.5	1881.1	1880.6	1880.1
29.5°	1861.0	1861.9	1861.0	1860.5	1859.5	1859.1
30°	1840.4	1841.8	1840.4	1839.9	1838.9	1838.9
30.5°	1820.8	1821.7	1820.8	1819.8	1819.3	1818.8
31°	1801.6	1803.1	1801.6	1801.1	1800.2	1799.7
31.5°	1782.5	1783.4	1782.5	1782.0	1782.0	1781.5
32°	1763.3	1764.3	1763.3	1763.8	1763.8	1763.8
32.5°	1743.2	1741.3	1743.2	1745.1	1746.1	1746.6
33°	1717.4	1712.1	1717.4	1722.2	1726.9	1727.9
33.5°	1685.8	1679.1	1685.8	1693.9	1703.0	1707.8
34°	1649.9	1642.7	1649.9	1660.4	1672.9	1679.1
34.5°	1612.1	1604.9	1612.1	1622.1	1636.0	1641.3
35°	1570.9	1564.2	1570.9	1579.0	1591.5	1596.8
35.5°	1525.0	1518.3	1525.0	1533.6	1545.1	1547.9
36°	1475.2	1468.0	1475.2	1483.8	1493.4	1495.8
36.5°	1421.1	1413.4	1421.1	1430.2	1438.3	1440.2
37°	1365.1	1357.4	1365.1	1371.8	1376.6	1378.0
37.5°	1305.7	1299.5	1305.7	1310.0	1312.0	1313.9
38°	1243.5	1240.6	1243.5	1244.0	1243.0	1245.9
38.5°	1178.9	1181.3	1178.9	1176.5	1175.5	1179.9
39°	1113.8	1120.0	1113.8	1108.1	1107.1	1108.5
39.5°	1047.8	1056.4	1047.8	1040.6	1038.7	1037.7
40°	982.2	990.3	982.2	972.6	968.3	963.5
40.5°	917.6	924.7	917.6	907.0	898.9	892.2
41°	853.4	860.6	853.4	841.5	828.1	819.0
41.5°	789.8	796.5	789.8	775.4	759.1	749.6
42°	726.6	732.8	726.6	709.4	690.2	681.6
42.5°	664.8	670.6	664.8	647.6	626.1	615.5
43°	603.6	609.8	603.6	585.4	563.8	551.9
43.5°	543.7	552.4	543.7	525.1	504.0	492.5



TEST NUMBER: P776788

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	380.5	392.5	380.5	358.5	336.5	326.4
45.5°	333.6	344.6	333.6	310.6	288.1	276.2
46°	290.1	303.5	290.1	267.6	242.2	232.1
46.5°	248.4	262.8	248.4	226.9	202.9	192.4
47°	209.2	221.6	209.2	187.6	167.5	161.3
47.5°	172.3	180.4	172.3	153.6	135.5	131.6
48°	139.3	147.9	139.3	122.5	108.7	104.8
48.5°	110.6	118.2	110.6	98.1	86.2	84.2
49°	87.6	91.9	87.6	75.6	65.6	63.2
49.5°	66.1	71.8	66.1	55.5	48.8	47.9
50°	51.7	54.6	51.7	42.1	33.0	34.0
50.5°	38.8	44.0	38.8	29.7	23.0	21.1
51°	25.8	33.5	25.8	20.6	15.3	11.5
51.5°	16.8	24.9	16.8	13.4	9.6	9.1
52°	10.5	16.3	10.5	8.6	8.1	7.7
52.5°	8.1	7.7	8.1	7.2	7.2	6.2
53°	6.7	6.2	6.7	6.7	6.2	6.2
53.5°	5.7	5.7	5.7	5.7	5.7	5.7
54°	5.3	5.3	5.3	5.3	5.3	5.3
54.5°	5.3	5.3	5.3	5.3	5.3	5.3
55°	4.8	4.8	4.8	4.8	4.8	4.8
55.5°	4.8	4.8	4.8	4.8	4.8	4.8
56°	4.3	4.3	4.3	4.3	4.3	4.3
56.5°	3.8	3.8	3.8	3.8	3.8	3.8
57°	3.8	3.8	3.8	3.8	3.8	3.8
57.5°	3.4	3.4	3.4	3.4	3.4	3.4
58°	3.4	3.4	3.4	3.4	3.4	3.4
58.5°	3.4	3.4	3.4	3.4	3.4	2.9
59°	2.9	2.9	2.9	2.9	2.9	2.9
59.5°	2.9	2.9	2.9	2.9	2.9	2.9
60°	2.4	2.4	2.4	2.4	2.4	2.4
60.5°	2.4	2.4	2.4	2.4	2.4	2.4
61°	2.4	2.4	2.4	2.4	2.4	2.4
61.5°	1.9	1.9	1.9	1.9	1.9	1.9
62°	1.9	1.9	1.9	1.9	1.9	1.9
62.5°	1.9	1.9	1.9	1.9	1.9	1.9
63°	1.9	1.9	1.9	1.9	1.9	1.9
63.5°	1.9	1.9	1.9	1.9	1.9	1.4
64°	1.4	1.4	1.4	1.4	1.4	1.4
64.5°	1.4	1.4	1.4	1.4	1.4	1.4
65°	1.4	1.4	1.4	1.4	1.4	1.4
65.5°	1.4	1.4	1.4	1.4	1.4	1.4
66°	1.4	1.4	1.4	1.4	1.4	1.4



TEST NUMBER: P776788

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	1.0	1.0	1.0	1.0	1.0	1.0
68°	1.0	1.0	1.0	1.0	1.0	1.0
68.5°	1.0	1.0	1.0	1.0	1.0	1.0
69°	1.0	1.0	1.0	1.0	1.0	1.0
69.5°	1.0	1.0	1.0	1.0	1.0	1.0
70°	1.0	1.0	1.0	1.0	1.0	1.0
70.5°	1.0	1.0	1.0	1.0	1.0	0.5
71°	0.5	0.5	0.5	0.5	0.5	0.5
71.5°	0.5	0.5	0.5	0.5	0.5	0.5
72°	0.5	0.5	0.5	0.5	0.5	0.5
72.5°	0.5	0.5	0.5	0.5	0.5	0.5
73°	0.5	0.5	0.5	0.5	0.5	0.5
73.5°	0.5	0.5	0.5	0.5	0.5	0.5
74°	0.5	0.5	0.5	0.5	0.5	0.5
74.5°	0.5	0.5	0.5	0.5	0.5	0.5
75°	0.5	0.5	0.5	0.5	0.5	0.5
75.5°	0.5	0.5	0.5	0.5	0.5	0.5
76°	0.5	0.5	0.5	0.5	0.5	0.5
76.5°	0.5	0.5	0.5	0.5	0.5	0.5
77°	0.5	0.5	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.0
78°	0.5	0.5	0.5	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776788

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRMB-5000lm-4000K

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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Scaled Data Report





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

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21.5°	2250.1	2249.6	2248.7	2247.2	2246.8	2247.2	2248.7	2249.6	2250.1	2249.6	2248.7
22°	2225.2	2224.7	2223.8	2222.3	2221.9	2222.3	2223.8	2224.7	2225.2	2224.7	2223.8



44°	435.1	444.2	466.2	485.8	497.3	485.8	466.2	444.2	435.1	444.2	466.2
44.5°	380.0	388.7	410.7	432.2	443.7	432.2	410.7	388.7	380.0	388.7	410.7



66.5°	1.0	1.0	1.4	1.4	1.4	1.4	1.4	1.0	1.0	1.0	1.4
67°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



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

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21.5°	2247.2	2246.8	2247.2	2248.7	2249.6	2250.1
22°	2222.3	2221.9	2222.3	2223.8	2224.7	2225.2



44°	485.8	497.3	485.8	466.2	444.2	435.1
44.5°	432.2	443.7	432.2	410.7	388.7	380.0

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66.5°	1.4	1.4	1.4	1.4	1.0	1.0
67°	1.0	1.0	1.0	1.0	1.0	1.0

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

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Scaled Data Report



(END OF REPORT)