

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: P776485

Luminaire Tested: HCDJBL3040CSD-HCD8TRC-4000lm-2700K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776485
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-HCD8TRC-4000lm-2700K
Description: 8 INCH ROUND MEDIUM SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT
Ballast/Driver: -

Summary

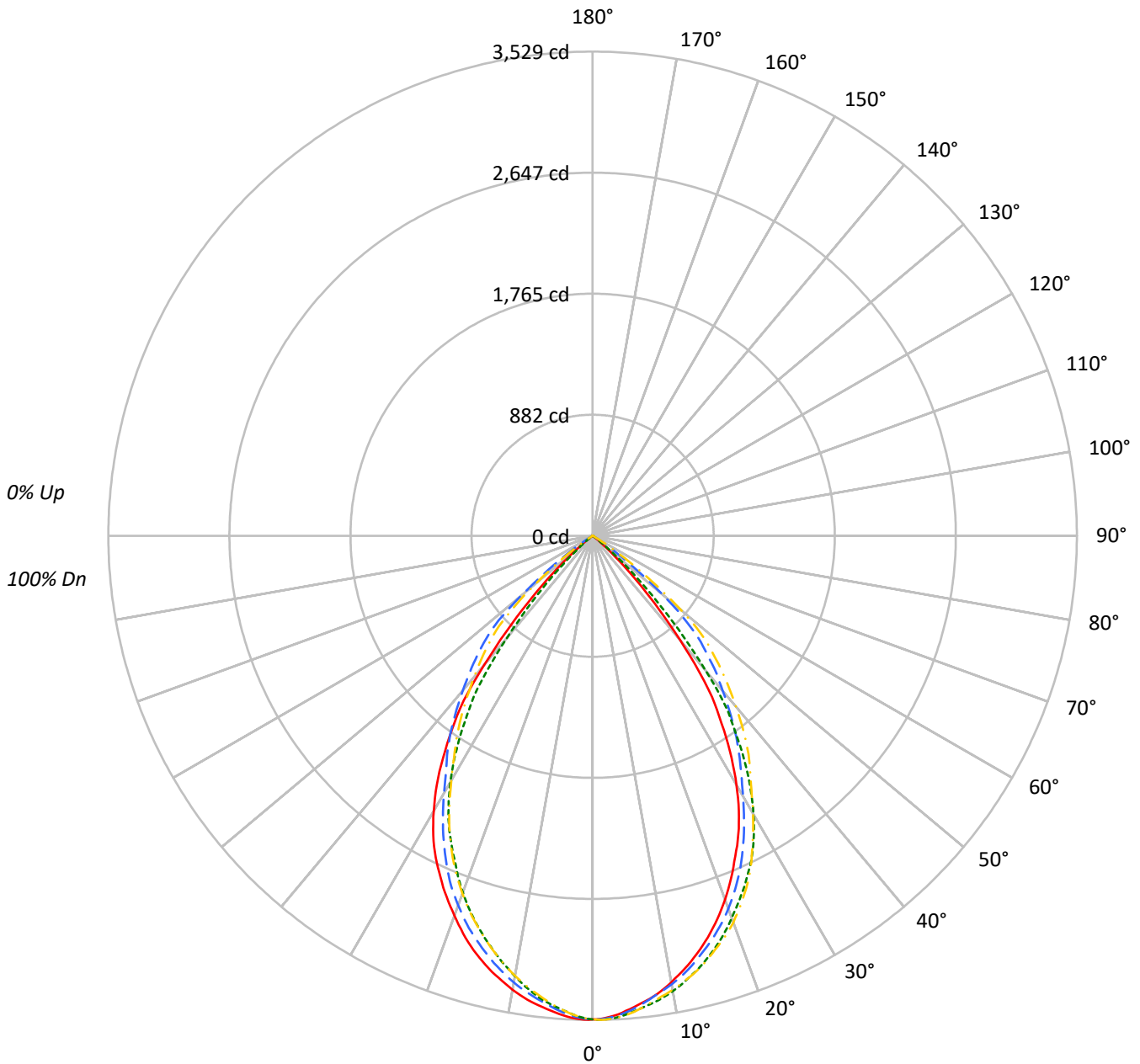
Lumens per Lamp: N/A
Luminaire Lumens: 4185.4 lumens
Efficiency: N/A
Efficacy: 108.7 lumens/watt
Spacing Criteria (0/90/45): 1 / 1 / 1.05
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

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	113	110	107	105	111	108	105	103	104	102	100	100	99	97	97	95	94	92					92			
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85					85			
3	101	94	88	84	99	92	87	83	89	85	82	87	83	80	85	82	79	78					78			
4	95	86	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71					71			
5	89	80	74	69	88	79	73	69	77	72	68	76	71	67	74	70	67	65					65			
6	84	74	68	63	83	73	67	63	72	66	62	70	66	62	69	65	61	60					60			
7	79	69	62	58	78	68	62	58	67	61	57	66	61	57	65	60	57	55					55			
8	75	64	58	53	74	64	58	53	63	57	53	62	56	53	61	56	52	51					51			
9	71	60	54	49	70	60	54	49	59	53	49	58	53	49	57	52	49	47					47			
10	67	56	50	46	66	56	50	46	55	50	46	54	49	45	54	49	45	44					44			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	107631	107631	107631	107631
5°	105689	106596	106489	105171
10°	102425	104496	104139	101067
15°	97787	101086	100675	95915
20°	91657	96299	95676	89873
25°	83920	90674	89859	82448
30°	73905	82651	81636	73094
35°	59916	69935	68775	59473
40°	39352	50998	48933	38798
45°	17279	26199	24572	16895
50°	3776	7604	6787	3648
55°	490	735	676	468
60°	397	586	537	372
65°	332	498	441	303
70°	277	411	375	241
75°	224	366	318	224
80°	211	334	264	211
85°	140	280	280	140

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 135°
 Vertical Angle: 45°
 Luminance: 54899 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	325.4	7.8
10°-20°	875.9	20.9
20°-30°	1178.2	28.1
30°-40°	1113.2	26.6
40°-50°	597.4	14.3
50°-60°	86.5	2.1
60°-70°	5.7	0.1
70°-80°	2.6	0.1
80°-90°	0.6	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°	2379.5	56.9
0°-40°	3492.7	83.4
0°-60°	4176.5	99.8
0°-90°	4185.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4185.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3525	3525	3525	3525	3525	
5°	3449	3478	3475	3432	3449	325
15°	3094	3198	3185	3035	3094	867
25°	2491	2692	2668	2448	2491	1138
35°	1608	1876	1845	1596	1608	984
45°	400	607	569	391	400	332
55°	9	14	13	9	9	15
65°	5	7	6	4	5	5
75°	2	3	3	2	2	2
85°	0	1	1	0	0	1
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°	3525.4	3525.4	3525.4	3525.4	3525.4	3525.4	3525.4	3525.4	3525.4	3525.4	3525.4
0.5°	3525.1	3525.4	3525.1	3525.8	3526.6	3527.4	3527.7	3528.9	3528.1	3526.2	3523.1
1°	3521.6	3522.8	3523.1	3525.4	3527.4	3528.1	3528.9	3528.9	3527.4	3523.9	3519.3
1.5°	3516.2	3518.9	3519.7	3522.8	3525.8	3527.4	3527.7	3527.7	3524.7	3520.4	3515.1
2°	3510.1	3513.9	3515.1	3518.9	3523.5	3524.7	3525.1	3525.1	3521.2	3515.5	3508.9
2.5°	3502.8	3507.4	3508.9	3513.9	3519.7	3520.8	3521.6	3521.2	3516.2	3508.9	3501.6
3°	3493.6	3498.9	3501.6	3507.0	3513.9	3515.8	3516.2	3515.5	3510.5	3502.0	3492.8
3.5°	3483.6	3489.3	3492.8	3498.9	3507.0	3509.3	3509.7	3508.5	3502.8	3493.2	3482.8
4°	3471.3	3478.2	3483.2	3490.1	3498.6	3501.2	3502.0	3500.9	3493.9	3483.2	3471.3
4.5°	3460.5	3467.4	3472.1	3478.6	3488.6	3492.0	3493.2	3491.3	3484.3	3472.4	3459.0
5°	3448.6	3457.1	3459.4	3467.1	3478.2	3481.3	3482.8	3481.3	3474.7	3460.9	3445.9
5.5°	3436.7	3444.8	3446.3	3454.0	3467.8	3470.5	3470.9	3470.5	3465.9	3449.4	3433.3
6°	3424.4	3432.1	3432.9	3442.5	3458.6	3460.2	3458.6	3461.3	3455.9	3438.3	3420.2
6.5°	3413.7	3420.2	3418.7	3430.2	3449.4	3450.2	3446.3	3450.6	3446.7	3426.4	3406.8
7°	3401.8	3408.7	3404.1	3417.9	3439.8	3439.8	3432.9	3440.2	3437.1	3414.8	3394.1
7.5°	3387.6	3395.6	3389.5	3406.4	3431.0	3429.8	3420.2	3428.7	3425.6	3402.2	3380.7
8°	3373.4	3381.8	3375.7	3394.5	3420.6	3419.4	3408.7	3416.4	3414.1	3389.1	3366.4
8.5°	3358.4	3366.8	3361.5	3381.8	3409.5	3408.7	3396.0	3403.3	3401.8	3374.9	3352.2
9°	3340.7	3350.7	3347.6	3367.2	3396.4	3396.0	3384.9	3390.3	3388.0	3361.1	3338.0
9.5°	3322.7	3333.4	3333.4	3353.0	3384.1	3383.3	3373.0	3375.3	3374.1	3346.9	3322.7
10°	3303.9	3315.4	3319.2	3338.0	3370.7	3370.3	3360.3	3359.9	3359.2	3331.5	3306.5
10.5°	3284.3	3296.2	3303.9	3323.1	3356.1	3356.5	3348.0	3344.2	3343.4	3316.1	3289.3
11°	3264.7	3275.0	3288.1	3306.2	3341.1	3341.1	3334.2	3328.0	3326.5	3298.9	3271.6
11.5°	3245.9	3254.3	3271.2	3289.3	3323.8	3325.4	3319.6	3310.4	3310.4	3281.6	3253.2
12°	3226.3	3234.0	3252.8	3270.8	3306.2	3308.1	3305.0	3292.7	3294.6	3263.9	3234.3
12.5°	3206.3	3213.6	3233.6	3252.4	3289.3	3289.6	3290.0	3275.0	3278.5	3247.4	3214.8
13°	3185.6	3192.5	3215.1	3233.2	3272.7	3271.2	3275.0	3258.9	3262.8	3230.5	3195.9
13.5°	3162.9	3171.7	3194.0	3215.1	3256.6	3254.3	3258.9	3242.4	3244.3	3214.4	3174.8
14°	3140.3	3149.9	3174.0	3197.1	3238.9	3237.4	3242.4	3226.7	3224.7	3197.1	3153.3
14.5°	3116.8	3126.8	3152.5	3179.0	3218.6	3219.7	3224.4	3209.0	3205.5	3177.9	3131.8
15°	3093.8	3103.0	3131.8	3159.8	3198.2	3201.3	3205.5	3190.2	3185.2	3157.5	3109.5
15.5°	3069.6	3080.0	3109.5	3138.7	3177.1	3181.0	3185.6	3170.6	3164.8	3136.8	3088.0
16°	3045.0	3055.8	3089.6	3117.2	3156.8	3160.6	3165.6	3152.2	3143.3	3115.3	3066.1
16.5°	3019.3	3032.0	3067.3	3095.3	3136.0	3139.1	3146.0	3131.4	3121.4	3093.8	3044.6
17°	2992.8	3007.0	3043.9	3072.7	3113.8	3118.7	3126.4	3111.1	3099.2	3070.7	3020.8
17.5°	2965.9	2982.8	3019.3	3049.6	3091.5	3096.9	3107.2	3089.9	3075.0	3047.3	2998.2
18°	2937.9	2956.7	2997.0	3026.2	3067.3	3075.0	3088.8	3068.4	3049.2	3022.4	2972.4
18.5°	2909.1	2929.8	2971.7	3002.4	3042.7	3051.5	3067.7	3045.8	3023.5	2996.6	2946.3
19°	2880.3	2902.9	2945.9	2977.0	3017.4	3027.3	3045.8	3021.6	2998.2	2970.1	2919.8
19.5°	2851.1	2875.7	2919.4	2950.2	2990.5	3002.8	3022.0	2996.6	2970.9	2943.6	2892.5
20°	2821.1	2846.8	2892.5	2923.3	2964.0	2977.0	2997.8	2971.3	2944.8	2916.4	2864.9
20.5°	2790.8	2818.0	2863.7	2895.2	2937.9	2950.9	2971.7	2945.2	2918.7	2887.9	2837.2
21°	2758.5	2788.9	2834.2	2866.8	2911.4	2924.0	2946.3	2919.0	2892.2	2859.5	2809.6



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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°	2659.4	2695.5	2744.7	2778.5	2831.9	2844.9	2862.6	2839.2	2812.7	2774.7	2719.7
23°	2623.7	2661.7	2712.1	2748.2	2805.0	2818.4	2833.8	2812.3	2786.2	2744.3	2687.1
23.5°	2589.2	2628.7	2680.2	2719.3	2778.5	2791.9	2805.0	2785.4	2754.7	2714.0	2653.7
24°	2555.4	2593.0	2646.4	2689.4	2748.5	2762.4	2776.2	2755.1	2724.7	2683.3	2619.1
24.5°	2523.1	2559.2	2611.4	2659.8	2719.7	2733.9	2743.2	2724.7	2695.5	2652.1	2584.2
25°	2491.2	2526.2	2576.5	2629.1	2691.7	2704.0	2709.4	2694.0	2667.5	2620.7	2547.7
25.5°	2457.1	2493.9	2540.4	2598.0	2664.8	2673.3	2674.0	2661.7	2639.1	2590.7	2511.6
26°	2421.7	2464.0	2503.9	2566.9	2635.2	2643.7	2638.7	2630.6	2609.1	2561.9	2474.7
26.5°	2385.6	2432.9	2467.0	2536.2	2603.0	2615.3	2600.7	2600.3	2576.9	2533.1	2437.5
27°	2347.6	2400.2	2428.3	2507.0	2570.0	2588.4	2562.3	2571.9	2543.1	2503.9	2400.2
27.5°	2308.8	2366.0	2389.8	2478.2	2535.8	2559.6	2525.0	2543.1	2508.5	2473.2	2362.2
28°	2267.7	2329.6	2349.5	2447.1	2500.1	2529.3	2487.8	2513.1	2472.4	2440.5	2323.8
28.5°	2227.0	2293.8	2310.4	2415.2	2463.2	2497.8	2450.1	2480.1	2435.5	2407.1	2285.4
29°	2184.0	2257.0	2270.4	2380.2	2424.4	2464.4	2414.0	2448.2	2396.8	2372.2	2246.2
29.5°	2141.0	2219.0	2230.5	2345.3	2384.9	2430.2	2374.9	2412.9	2356.1	2335.7	2205.1
30°	2096.4	2179.0	2191.7	2308.8	2344.5	2394.5	2337.6	2376.8	2315.7	2298.1	2163.7
30.5°	2051.1	2137.2	2153.3	2270.8	2302.3	2356.8	2298.4	2339.5	2273.1	2258.1	2124.1
31°	2002.0	2095.3	2115.3	2231.6	2259.7	2318.4	2259.7	2301.5	2231.2	2218.2	2086.1
31.5°	1958.2	2053.8	2079.9	2191.3	2215.1	2278.5	2220.1	2260.8	2186.7	2176.7	2049.6
32°	1909.4	2011.2	2044.6	2150.6	2170.6	2237.8	2183.2	2220.9	2142.5	2135.2	2015.8
32.5°	1861.8	1967.0	2009.7	2109.9	2124.9	2196.3	2147.1	2179.0	2094.5	2093.0	1982.8
33°	1810.7	1923.2	1974.7	2068.8	2078.4	2154.1	2113.7	2136.8	2047.7	2050.4	1952.0
33.5°	1763.1	1878.3	1939.4	2026.6	2030.0	2111.0	2081.5	2093.4	1997.7	2005.0	1920.6
34°	1710.9	1832.6	1905.6	1983.5	1980.1	2068.4	2050.4	2049.2	1947.4	1960.9	1889.1
34.5°	1660.2	1785.8	1871.8	1939.4	1927.9	2022.7	2018.9	2005.0	1895.6	1913.6	1855.7
35°	1607.6	1738.1	1837.6	1896.4	1876.4	1976.2	1987.8	1959.7	1845.3	1867.2	1823.4
35.5°	1559.6	1690.1	1803.0	1851.4	1825.3	1929.4	1954.7	1914.4	1792.7	1819.6	1788.4
36°	1510.4	1642.1	1766.2	1805.3	1773.5	1882.5	1920.6	1867.2	1741.6	1771.6	1754.3
36.5°	1463.2	1593.0	1729.7	1758.9	1722.8	1832.6	1885.6	1819.2	1692.4	1722.4	1718.6
37°	1401.7	1545.7	1692.8	1711.3	1673.6	1782.7	1849.5	1771.2	1642.9	1674.4	1682.8
37.5°	1333.0	1499.3	1656.3	1664.0	1626.8	1732.8	1811.9	1723.2	1584.9	1625.2	1646.4
38°	1264.2	1453.6	1618.7	1616.4	1567.2	1683.6	1774.2	1675.5	1524.2	1578.0	1611.0
38.5°	1195.9	1407.1	1581.5	1569.9	1502.7	1636.0	1737.0	1627.5	1455.1	1531.5	1575.7
39°	1127.1	1344.1	1546.1	1526.5	1434.0	1589.9	1699.7	1583.0	1382.5	1485.8	1540.7
39.5°	1058.4	1280.4	1510.0	1481.6	1356.4	1546.5	1661.3	1537.7	1304.2	1433.2	1505.0
40°	987.4	1216.6	1475.5	1439.7	1279.6	1491.6	1624.1	1491.2	1227.8	1374.5	1470.5
40.5°	916.7	1152.9	1439.4	1390.2	1203.6	1432.4	1587.6	1442.1	1153.6	1311.1	1436.3
41°	851.8	1089.1	1405.2	1328.0	1130.6	1368.7	1551.1	1384.4	1082.2	1244.3	1402.5
41.5°	786.9	1021.5	1386.4	1265.4	1060.7	1298.4	1515.8	1323.4	1013.5	1175.1	1369.9
42°	727.4	956.6	1349.1	1202.8	990.4	1227.0	1479.3	1258.1	943.2	1107.2	1336.4
42.5°	669.4	891.7	1311.5	1140.6	925.1	1156.7	1445.1	1191.7	877.1	1043.0	1304.6
43°	613.3	826.8	1274.2	1078.0	854.5	1089.5	1410.9	1126.0	809.2	979.7	1272.7
43.5°	555.3	765.0	1236.6	1014.6	789.6	1024.6	1376.0	1061.5	744.3	919.4	1240.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	400.2	597.6	1137.9	838.0	606.8	833.4	1271.5	879.4	569.1	737.0	1141.4
45.5°	352.9	543.0	1105.3	778.8	553.0	770.8	1236.2	818.4	515.8	680.1	1109.5
46°	309.5	491.2	1069.5	723.5	497.3	710.8	1201.6	758.1	463.9	623.3	1077.2
46.5°	266.5	440.5	1027.3	666.3	447.8	654.0	1167.8	700.1	414.8	573.4	1040.0
47°	227.0	393.3	978.5	612.9	403.2	598.7	1136.4	643.6	371.7	520.4	1003.9
47.5°	190.1	347.6	928.6	559.9	359.1	544.2	1096.0	589.9	328.7	472.0	961.6
48°	159.4	304.2	879.1	511.5	314.9	492.3	1056.1	537.3	285.3	422.8	920.1
48.5°	132.5	263.1	831.4	461.6	270.4	442.4	1010.4	487.0	242.7	380.2	864.5
49°	114.4	224.7	776.1	415.1	226.6	398.2	955.5	437.4	206.6	337.2	804.9
49.5°	97.2	188.9	720.1	369.1	191.6	354.8	898.6	394.8	174.0	294.6	741.2
50°	79.5	156.7	659.0	325.7	160.1	311.1	836.4	351.8	142.9	251.9	679.0
50.5°	62.2	128.3	597.6	283.0	131.3	267.7	775.0	309.1	115.6	215.8	619.8
51°	48.4	111.0	537.6	245.4	105.6	223.9	712.8	266.5	91.4	182.8	562.6
51.5°	34.9	93.7	481.6	209.3	84.1	189.7	652.5	223.9	76.0	152.8	507.3
52°	21.9	76.0	428.6	176.3	70.3	158.2	591.4	188.9	60.3	123.7	452.8
52.5°	13.4	58.8	378.7	146.3	56.5	128.7	535.0	156.7	44.9	97.9	407.5
53°	11.9	45.3	330.7	124.4	42.2	103.3	478.5	127.9	29.2	75.7	361.8
53.5°	11.1	32.6	285.7	102.9	28.4	81.8	425.5	101.4	14.2	62.6	316.4
54°	10.4	20.0	244.6	81.0	15.0	67.6	379.0	78.3	13.4	49.5	270.7
54.5°	9.6	11.1	207.4	59.1	14.2	53.8	332.6	64.9	13.1	36.5	225.4
55°	9.2	10.4	173.6	37.6	13.8	39.9	286.5	51.5	12.7	23.4	190.9
55.5°	8.8	9.6	143.6	21.9	13.1	26.1	240.0	37.6	12.3	10.8	159.4
56°	8.4	9.2	123.3	11.9	12.7	12.3	202.0	24.2	11.9	10.4	130.6
56.5°	8.4	8.4	103.3	11.1	12.3	11.5	167.1	11.1	11.5	10.0	105.6
57°	8.1	8.1	83.0	10.8	11.9	11.1	135.9	10.8	11.1	9.6	83.7
57.5°	7.7	8.1	63.0	10.4	11.5	10.8	108.3	10.4	10.8	9.6	66.1
58°	7.3	7.7	43.0	10.0	11.1	10.4	84.5	10.4	10.4	9.2	55.7
58.5°	7.3	7.3	33.0	9.6	10.8	10.0	64.9	10.0	10.0	8.8	45.7
59°	6.9	7.3	25.3	9.2	10.4	10.0	54.5	9.6	9.6	8.4	35.3
59.5°	6.9	6.9	19.6	8.8	10.0	9.6	44.5	9.2	9.2	8.4	25.3
60°	6.5	6.9	15.0	8.8	9.6	9.2	34.9	8.8	8.8	8.1	15.4
60.5°	6.1	6.5	12.7	8.4	9.2	8.8	25.0	8.8	8.8	7.7	11.5
61°	6.1	6.5	10.8	8.1	9.2	8.4	15.0	8.4	8.4	7.7	8.4
61.5°	5.8	6.1	8.8	8.1	8.8	8.4	11.1	8.1	8.1	7.3	6.9
62°	5.8	6.1	6.5	7.7	8.4	8.1	8.8	8.1	7.7	6.9	6.1
62.5°	5.4	5.8	6.5	7.3	8.1	7.7	7.3	7.7	7.7	6.9	6.1
63°	5.4	5.8	6.1	7.3	8.1	7.7	6.9	7.3	7.3	6.5	5.8
63.5°	5.0	5.4	6.1	6.9	7.7	7.3	6.9	7.3	6.9	6.5	5.8
64°	5.0	5.4	5.8	6.9	7.3	7.3	6.5	6.9	6.9	6.1	5.4
64.5°	4.6	5.0	5.8	6.5	7.3	6.9	6.5	6.5	6.5	6.1	5.4
65°	4.6	5.0	5.4	6.1	6.9	6.5	6.1	6.5	6.1	5.8	5.0
65.5°	4.2	5.0	5.4	6.1	6.5	6.5	6.1	6.1	6.1	5.8	5.0
66°	4.2	4.6	5.0	5.8	6.5	6.1	5.8	6.1	5.8	5.4	4.6



TEST NUMBER: P776485

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRC-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	3.8	4.2	4.6	5.4	5.8	5.8	5.4	5.4	5.0	5.0	4.2
68°	3.5	3.8	4.6	5.0	5.4	5.4	5.0	5.0	5.0	4.6	4.2
68.5°	3.5	3.8	4.2	5.0	5.4	5.4	5.0	5.0	4.6	4.6	3.8
69°	3.5	3.5	4.2	4.6	5.0	5.0	4.6	4.6	4.6	4.2	3.8
69.5°	3.1	3.5	3.8	4.6	5.0	5.0	4.6	4.6	4.2	4.2	3.8
70°	3.1	3.5	3.8	4.2	4.6	4.6	4.2	4.2	4.2	3.8	3.5
70.5°	3.1	3.1	3.5	4.2	4.6	4.6	4.2	4.2	4.2	3.8	3.5
71°	2.7	3.1	3.5	3.8	4.6	4.2	3.8	3.8	3.8	3.8	3.1
71.5°	2.7	3.1	3.5	3.8	4.2	4.2	3.8	3.8	3.8	3.5	3.1
72°	2.7	2.7	3.1	3.8	4.2	3.8	3.5	3.8	3.5	3.5	3.1
72.5°	2.7	2.7	3.1	3.5	3.8	3.8	3.5	3.5	3.5	3.1	2.7
73°	2.3	2.7	2.7	3.5	3.8	3.8	3.1	3.5	3.5	3.1	2.7
73.5°	2.3	2.7	2.7	3.1	3.5	3.5	3.1	3.1	3.1	3.1	2.3
74°	2.3	2.3	2.7	3.1	3.5	3.5	3.1	3.1	3.1	2.7	2.3
74.5°	2.3	2.3	2.3	3.1	3.5	3.5	2.7	3.1	3.1	2.7	2.3
75°	1.9	2.3	2.3	2.7	3.1	3.1	2.7	2.7	2.7	2.7	1.9
75.5°	1.9	1.9	2.3	2.7	3.1	3.1	2.3	2.7	2.7	2.3	1.9
76°	1.9	1.9	1.9	2.7	3.1	2.7	2.3	2.7	2.7	2.3	1.9
76.5°	1.9	1.9	1.9	2.3	2.7	2.7	2.3	2.3	2.3	2.3	1.9
77°	1.5	1.9	1.9	2.3	2.7	2.7	1.9	2.3	2.3	1.9	1.5
77.5°	1.5	1.5	1.5	2.3	2.7	2.3	1.9	2.3	2.3	1.9	1.5
78°	1.5	1.5	1.5	1.9	2.3	2.3	1.9	1.9	1.9	1.9	1.5
78.5°	1.5	1.5	1.5	1.9	2.3	2.3	1.5	1.9	1.9	1.9	1.5
79°	1.5	1.5	1.5	1.9	2.3	1.9	1.5	1.9	1.9	1.5	1.2
79.5°	1.2	1.2	1.2	1.9	1.9	1.9	1.5	1.5	1.9	1.5	1.2
80°	1.2	1.2	1.2	1.5	1.9	1.9	1.5	1.5	1.5	1.5	1.2
80.5°	1.2	1.2	1.2	1.5	1.9	1.5	1.2	1.5	1.5	1.2	1.2
81°	1.2	1.2	1.2	1.5	1.5	1.5	1.2	1.2	1.5	1.2	0.8
81.5°	0.8	1.2	0.8	1.2	1.5	1.5	1.2	1.2	1.5	1.2	0.8
82°	0.8	0.8	0.8	1.2	1.5	1.5	1.2	1.2	1.2	1.2	0.8
82.5°	0.8	0.8	0.8	1.2	1.5	1.2	0.8	1.2	1.2	0.8	0.8
83°	0.8	0.8	0.8	0.8	1.2	1.2	0.8	0.8	1.2	0.8	0.8
83.5°	0.8	0.8	0.8	0.8	1.2	1.2	0.8	0.8	1.2	0.8	0.4
84°	0.4	0.4	0.4	0.8	1.2	0.8	0.8	0.8	0.8	0.8	0.4
84.5°	0.4	0.4	0.4	0.8	1.2	0.8	0.8	0.8	0.8	0.4	0.4
85°	0.4	0.4	0.4	0.4	0.8	0.8	0.4	0.4	0.8	0.4	0.4
85.5°	0.4	0.4	0.4	0.4	0.8	0.8	0.4	0.4	0.8	0.4	0.4
86°	0.4	0.4	0.4	0.4	0.8	0.4	0.4	0.4	0.4	0.4	0.4
86.5°	0.4	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
87°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.0	0.4	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.4	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: P776485
CATALOG NUMBER: HCDJBL3040CSD-HCD8TRC-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776485

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRC-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3525.4	3525.4	3525.4	3525.4	3525.4	3525.4
0.5°	3522.4	3520.1	3520.8	3521.6	3523.5	3525.1
1°	3518.1	3515.1	3514.3	3516.2	3519.3	3521.6
1.5°	3512.0	3507.4	3507.0	3508.9	3513.1	3516.2
2°	3504.7	3498.9	3497.4	3500.1	3505.1	3510.1
2.5°	3496.3	3488.6	3487.0	3490.1	3496.3	3502.8
3°	3485.9	3477.4	3476.3	3479.0	3486.3	3493.6
3.5°	3474.7	3466.3	3463.2	3467.1	3474.4	3483.6
4°	3463.6	3455.2	3452.1	3452.9	3461.7	3471.3
4.5°	3452.9	3444.0	3439.4	3438.6	3447.9	3460.5
5°	3441.3	3431.7	3426.4	3424.8	3434.4	3448.6
5.5°	3429.0	3418.3	3412.1	3409.5	3420.2	3436.7
6°	3415.6	3405.6	3397.9	3393.7	3404.9	3424.4
6.5°	3402.2	3390.6	3383.3	3378.4	3390.3	3413.7
7°	3388.3	3375.7	3366.4	3362.2	3376.4	3401.8
7.5°	3372.6	3358.0	3349.2	3345.3	3361.1	3387.6
8°	3355.7	3340.3	3331.1	3329.2	3345.3	3373.4
8.5°	3337.3	3321.1	3311.1	3310.8	3328.8	3358.4
9°	3318.4	3301.2	3291.2	3293.1	3311.5	3340.7
9.5°	3298.5	3281.2	3269.7	3275.0	3293.5	3322.7
10°	3278.1	3260.1	3248.9	3256.2	3274.3	3303.9
10.5°	3257.8	3238.6	3226.3	3237.0	3254.3	3284.3
11°	3236.3	3217.4	3203.6	3217.1	3234.0	3264.7
11.5°	3214.8	3196.7	3181.0	3196.3	3213.6	3245.9
12°	3193.6	3175.2	3159.8	3174.8	3192.5	3226.3
12.5°	3173.3	3152.2	3137.6	3152.9	3172.1	3206.3
13°	3152.5	3129.1	3116.1	3130.7	3151.4	3185.6
13.5°	3129.9	3105.7	3091.5	3107.6	3131.0	3162.9
14°	3108.4	3081.9	3067.3	3083.4	3109.9	3140.3
14.5°	3085.0	3058.5	3042.7	3060.0	3087.6	3116.8
15°	3062.3	3034.6	3019.3	3036.6	3064.2	3093.8
15.5°	3038.5	3010.1	2994.3	3012.8	3040.0	3069.6
16°	3015.4	2984.7	2969.7	2988.6	3015.8	3045.0
16.5°	2991.6	2960.1	2944.4	2963.6	2991.2	3019.3
17°	2967.4	2934.0	2919.4	2939.4	2965.9	2992.8
17.5°	2942.5	2907.1	2893.7	2913.3	2940.2	2965.9
18°	2917.5	2879.5	2866.8	2887.2	2913.3	2937.9
18.5°	2890.6	2852.6	2840.3	2860.7	2885.6	2909.1
19°	2863.7	2824.2	2812.3	2832.3	2857.6	2880.3
19.5°	2836.9	2795.4	2784.3	2804.6	2828.4	2851.1
20°	2810.0	2766.2	2755.1	2775.8	2797.7	2821.1
20.5°	2782.7	2735.5	2726.6	2746.2	2767.4	2790.8
21°	2753.5	2704.4	2697.5	2715.9	2736.2	2758.5



TEST NUMBER: P776485

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRC-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2660.2	2605.7	2603.8	2623.0	2639.9	2659.4
23°	2628.3	2571.5	2571.5	2589.5	2606.1	2623.7
23.5°	2594.2	2540.8	2536.9	2557.3	2572.3	2589.2
24°	2560.0	2509.7	2502.8	2522.0	2537.7	2555.4
24.5°	2524.3	2478.6	2470.9	2487.4	2501.2	2523.1
25°	2490.8	2447.5	2439.4	2451.3	2464.0	2491.2
25.5°	2458.2	2416.0	2410.2	2416.3	2429.4	2457.1
26°	2427.9	2383.3	2379.1	2378.3	2395.2	2421.7
26.5°	2398.3	2349.1	2348.4	2340.7	2363.3	2385.6
27°	2368.7	2313.4	2317.6	2301.9	2330.7	2347.6
27.5°	2337.6	2275.8	2285.0	2262.0	2296.5	2308.8
28°	2305.7	2236.6	2252.0	2221.3	2262.0	2267.7
28.5°	2271.9	2197.4	2217.0	2181.3	2226.2	2227.0
29°	2237.4	2157.5	2180.9	2140.2	2189.0	2184.0
29.5°	2200.9	2115.3	2144.1	2099.9	2150.2	2141.0
30°	2164.4	2073.4	2105.3	2059.2	2110.7	2096.4
30.5°	2126.0	2029.6	2065.7	2020.8	2070.3	2051.1
31°	2088.0	1984.7	2024.6	1982.4	2028.9	2002.0
31.5°	2047.3	1939.0	1983.5	1945.1	1986.6	1958.2
32°	2008.1	1893.3	1941.7	1907.5	1943.6	1909.4
32.5°	1967.0	1844.9	1899.8	1872.6	1900.2	1861.8
33°	1925.2	1796.9	1855.7	1837.6	1856.8	1810.7
33.5°	1883.3	1747.4	1810.0	1804.2	1813.0	1763.1
34°	1840.7	1696.7	1765.0	1770.8	1769.2	1710.9
34.5°	1795.7	1646.0	1716.6	1735.8	1723.2	1660.2
35°	1752.0	1595.7	1669.0	1700.5	1677.8	1607.6
35.5°	1707.4	1548.0	1621.0	1665.2	1632.5	1559.6
36°	1662.5	1502.0	1573.0	1627.9	1586.4	1510.4
36.5°	1616.0	1454.7	1524.2	1591.4	1540.7	1463.2
37°	1569.9	1394.8	1477.8	1555.7	1494.3	1401.7
37.5°	1524.2	1324.5	1431.7	1519.6	1448.2	1333.0
38°	1479.3	1254.3	1391.4	1483.5	1402.5	1264.2
38.5°	1437.1	1184.4	1328.8	1447.0	1353.3	1195.9
39°	1397.9	1114.1	1265.8	1412.9	1304.2	1127.1
39.5°	1355.3	1043.8	1202.8	1373.3	1254.6	1058.4
40°	1301.1	973.5	1140.2	1341.8	1205.5	987.4
40.5°	1238.9	904.0	1077.6	1309.9	1155.9	916.7
41°	1175.9	837.6	1014.6	1278.1	1097.2	851.8
41.5°	1113.3	773.1	950.1	1246.2	1038.8	786.9
42°	1052.6	713.9	885.6	1213.9	981.2	727.4
42.5°	991.2	657.5	821.8	1181.3	920.9	669.4
43°	929.0	600.6	761.2	1149.4	861.0	613.3
43.5°	865.6	544.2	703.6	1116.8	801.9	555.3



TEST NUMBER: P776485

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRC-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	690.9	391.3	543.8	1024.2	639.4	400.2
45.5°	637.1	346.0	492.3	987.7	588.7	352.9
46°	583.7	302.2	444.3	947.8	538.8	309.5
46.5°	531.9	260.4	397.1	897.5	487.3	266.5
47°	481.6	220.8	352.9	849.1	440.5	227.0
47.5°	432.4	185.9	308.8	802.6	393.6	190.1
48°	389.8	155.5	267.7	754.2	349.9	159.4
48.5°	347.2	129.8	229.3	702.4	306.5	132.5
49°	304.9	111.8	193.9	642.5	267.3	114.4
49.5°	262.3	94.1	162.4	583.0	227.7	97.2
50°	219.7	76.8	134.4	528.8	192.4	79.5
50.5°	184.7	59.5	116.7	476.2	160.1	62.2
51°	153.6	45.7	99.5	427.8	132.9	48.4
51.5°	126.7	32.3	81.8	381.0	115.6	34.9
52°	104.5	19.6	64.5	336.8	98.3	21.9
52.5°	85.6	11.5	46.9	295.3	81.0	13.4
53°	69.9	10.8	33.4	256.5	63.7	11.9
53.5°	58.0	10.4	20.7	219.7	46.9	11.1
54°	46.1	9.6	11.5	187.4	33.4	10.4
54.5°	33.8	9.2	10.8	157.8	21.1	9.6
55°	21.9	8.8	9.6	131.0	11.9	9.2
55.5°	10.0	8.4	8.8	111.4	10.8	8.8
56°	8.1	8.1	8.1	91.8	9.6	8.4
56.5°	8.1	8.1	7.7	72.2	8.4	8.4
57°	7.7	7.7	7.3	52.6	7.7	8.1
57.5°	7.3	7.3	7.3	39.9	7.3	7.7
58°	7.3	7.3	6.9	30.3	6.9	7.3
58.5°	6.9	6.9	6.9	22.3	6.9	7.3
59°	6.9	6.5	6.5	16.5	6.5	6.9
59.5°	6.5	6.5	6.5	14.6	6.5	6.9
60°	6.5	6.1	6.1	12.3	6.1	6.5
60.5°	6.1	6.1	6.1	10.0	6.1	6.1
61°	6.1	5.8	5.8	7.7	5.8	6.1
61.5°	5.8	5.8	5.8	5.8	5.8	5.8
62°	5.8	5.4	5.4	5.4	5.4	5.8
62.5°	5.4	5.4	5.4	5.4	5.4	5.4
63°	5.4	5.0	5.0	5.0	5.4	5.4
63.5°	5.0	4.6	5.0	5.0	5.0	5.0
64°	5.0	4.6	4.6	5.0	5.0	5.0
64.5°	4.6	4.2	4.6	4.6	4.6	4.6
65°	4.6	4.2	4.6	4.6	4.6	4.6
65.5°	4.6	4.2	4.2	4.2	4.6	4.2
66°	4.2	3.8	4.2	4.2	4.2	4.2



TEST NUMBER: P776485
 CATALOG NUMBER: HCDJBL3040CSD-HCD8TRC-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	3.8	3.5	3.8	3.8	3.8	3.8
68°	3.5	3.5	3.5	3.8	3.8	3.5
68.5°	3.5	3.1	3.5	3.5	3.5	3.5
69°	3.5	3.1	3.5	3.5	3.5	3.5
69.5°	3.1	3.1	3.1	3.5	3.5	3.1
70°	3.1	2.7	3.1	3.1	3.1	3.1
70.5°	3.1	2.7	3.1	3.1	3.1	3.1
71°	2.7	2.7	2.7	2.7	3.1	2.7
71.5°	2.7	2.7	2.7	2.7	2.7	2.7
72°	2.7	2.3	2.7	2.7	2.7	2.7
72.5°	2.7	2.3	2.3	2.3	2.7	2.7
73°	2.3	2.3	2.3	2.3	2.7	2.3
73.5°	2.3	2.3	2.3	2.3	2.3	2.3
74°	2.3	1.9	2.3	1.9	2.3	2.3
74.5°	1.9	1.9	1.9	1.9	2.3	2.3
75°	1.9	1.9	1.9	1.9	1.9	1.9
75.5°	1.9	1.9	1.9	1.9	1.9	1.9
76°	1.9	1.5	1.9	1.5	1.9	1.9
76.5°	1.9	1.5	1.5	1.5	1.9	1.9
77°	1.5	1.5	1.5	1.5	1.5	1.5
77.5°	1.5	1.5	1.5	1.5	1.5	1.5
78°	1.5	1.5	1.5	1.2	1.5	1.5
78.5°	1.5	1.5	1.5	1.2	1.5	1.5
79°	1.2	1.2	1.2	1.2	1.5	1.5
79.5°	1.2	1.2	1.2	1.2	1.2	1.2
80°	1.2	1.2	1.2	1.2	1.2	1.2
80.5°	1.2	1.2	1.2	0.8	1.2	1.2
81°	1.2	1.2	1.2	0.8	1.2	1.2
81.5°	0.8	0.8	0.8	0.8	0.8	0.8
82°	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.8	0.8	0.8	0.8	0.8	0.8
83°	0.8	0.8	0.8	0.4	0.8	0.8
83.5°	0.8	0.8	0.8	0.4	0.4	0.8
84°	0.4	0.8	0.4	0.4	0.4	0.4
84.5°	0.4	0.4	0.4	0.4	0.4	0.4
85°	0.4	0.4	0.4	0.4	0.4	0.4
85.5°	0.4	0.4	0.4	0.4	0.4	0.4
86°	0.4	0.4	0.4	0.4	0.4	0.4
86.5°	0.4	0.4	0.4	0.0	0.0	0.4
87°	0.0	0.4	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: P776485
CATALOG NUMBER: HCDJBL3040CSD-HCD8TRC-4000lm-2700K

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
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





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

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Scaled Data Report



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Scaled Data Report





21.5°	2726.6	2758.1	2805.0	2837.2	2884.9	2897.5	2920.2	2892.5	2865.7	2831.1	2781.9
22°	2694.0	2727.4	2775.0	2807.3	2858.4	2871.0	2891.8	2865.7	2839.2	2803.1	2751.6



44°	500.8	708.2	1203.2	955.5	723.5	960.9	1341.4	999.3	681.7	856.8	1207.4
44.5°	448.6	652.1	1169.4	896.0	665.9	898.3	1306.1	939.7	623.7	797.3	1174.4



66.5°	3.8	4.6	5.0	5.8	6.1	6.1	5.4	5.8	5.4	5.4	4.6
67°	3.8	4.2	5.0	5.4	5.8	5.8	5.4	5.4	5.4	5.0	4.6



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°	2723.6	2672.9	2666.0	2686.3	2705.1	2726.6
22°	2692.1	2639.1	2634.5	2654.8	2672.9	2694.0



44°	804.2	491.6	650.2	1084.5	744.3	500.8
44.5°	746.6	439.3	596.4	1052.3	690.9	448.6

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66.5°	4.2	3.8	3.8	4.2	4.2	3.8
67°	3.8	3.5	3.8	3.8	3.8	3.8

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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)