

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: P776390

Luminaire Tested: HCDJBL3040CSD-HCD6TRH-4000lm-2700K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776390
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-HCD6TRH-4000lm-2700K
Description: 6 INCH ROUND MEDIUM HAZE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT
Ballast/Driver: -

Summary

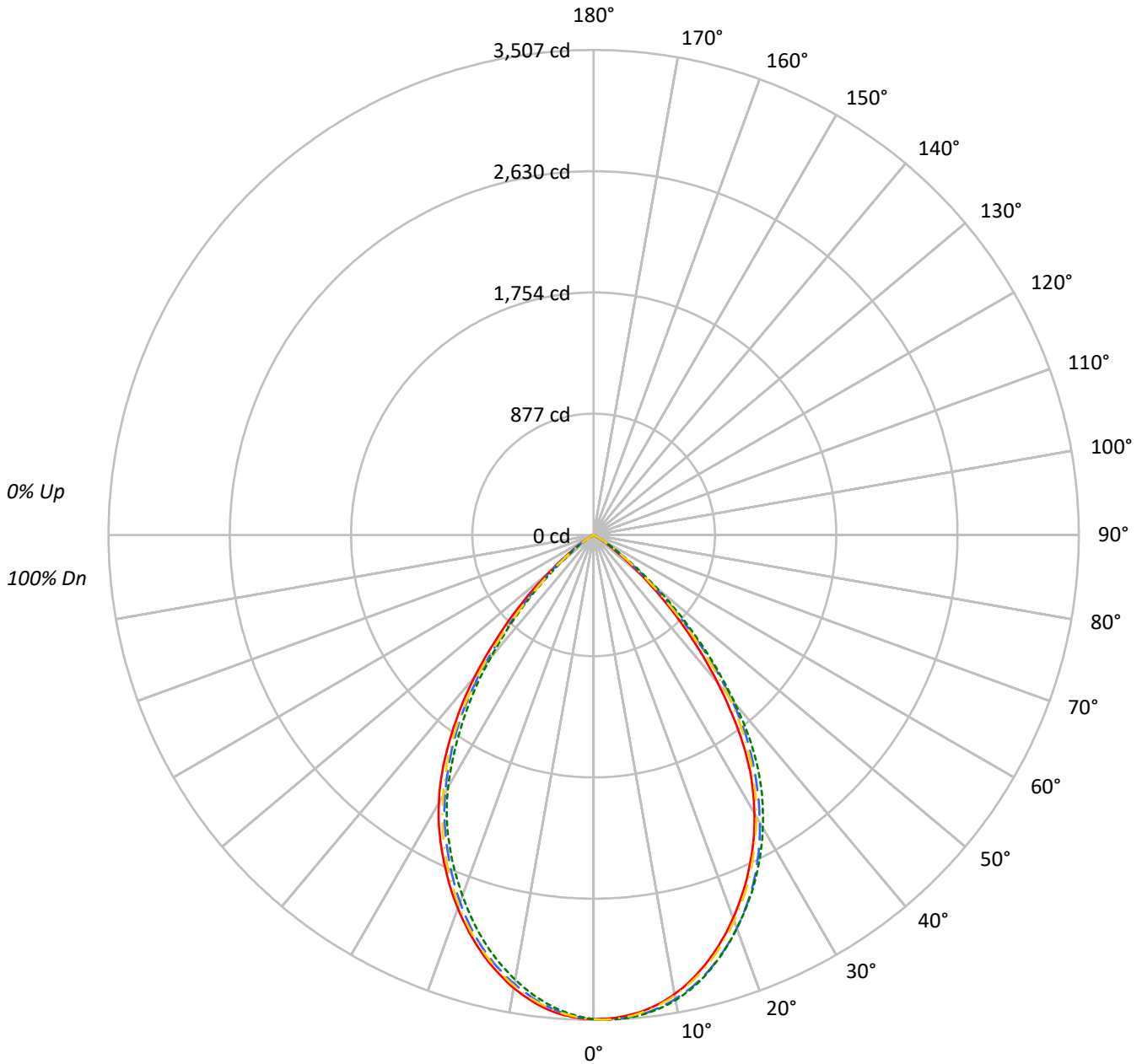
Lumens per Lamp: N/A
Luminaire Lumens: 4404.1 lumens
Efficiency: N/A
Efficacy: 114.4 lumens/watt
Spacing Criteria (0/90/45): 1.02 / 1.02 / 1.06
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

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	110	108	105	103	104	102	100	100	98	97	96	95	94	92					92			
2	106	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84					84			
3	100	93	87	83	98	92	86	82	89	85	81	86	83	80	84	81	78	77					77			
4	94	86	80	75	92	85	79	74	82	77	73	80	76	73	78	75	72	70					70			
5	89	79	73	68	87	78	72	68	76	71	67	75	70	66	73	69	66	64					64			
6	83	73	67	62	82	73	66	62	71	65	61	69	64	61	68	64	60	59					59			
7	78	68	61	57	77	67	61	56	66	60	56	65	60	56	64	59	55	54					54			
8	74	63	57	52	73	63	56	52	62	56	52	61	55	51	59	55	51	50					50			
9	70	59	53	48	69	59	52	48	58	52	48	57	51	48	56	51	47	46					46			
10	66	55	49	45	65	55	49	45	54	48	44	53	48	44	52	48	44	43					43			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	191975	191975	191975	191975
5°	191123	192284	190259	188339
10°	187672	190149	185172	181860
15°	181079	184763	177441	172998
20°	172011	176620	167554	161842
25°	160884	166921	155731	149301
30°	147137	154790	141743	133312
35°	127763	138805	121419	110423
40°	99594	113463	95722	82948
45°	68294	82365	65673	53323
50°	37611	49789	35973	26191
55°	14384	21868	15550	11154
60°	1897	5592	3750	1469
65°	246	454	350	246
70°	64	128	128	128
75°	85	85	85	85
80°	0	0	0	0
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 82365 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	326.9	7.4
10°-20°	886.3	20.1
20°-30°	1198.9	27.2
30°-40°	1151.0	26.1
40°-50°	670.3	15.2
50°-60°	165.0	3.7
60°-70°	5.3	0.1
70°-80°	0.3	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°	2412.1	54.8
0°-40°	3563.1	80.9
0°-60°	4398.5	99.9
0°-90°	4404.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4404.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3502	3502	3502	3502	3502	
5°	3473	3494	3457	3422	3473	328
15°	3191	3256	3126	3048	3191	895
25°	2660	2760	2575	2468	2660	1219
35°	1909	2074	1814	1650	1909	1175
45°	881	1062	847	688	881	680
55°	150	229	163	117	150	155
65°	2	4	3	2	2	4
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	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°	3501.9	3501.9	3501.9	3501.9	3501.9	3501.9	3501.9	3501.9	3501.9	3501.9	3501.9
0.5°	3501.1	3501.5	3504.2	3506.5	3503.1	3504.6	3505.4	3503.8	3500.4	3498.8	3499.2
1°	3500.4	3501.9	3505.8	3508.4	3505.4	3506.1	3506.1	3503.4	3498.8	3495.8	3496.2
1.5°	3499.2	3501.9	3506.1	3509.6	3506.5	3507.3	3505.8	3502.3	3497.3	3492.7	3491.9
2°	3497.3	3501.5	3506.1	3509.6	3507.3	3507.3	3505.4	3500.4	3493.5	3488.9	3486.9
2.5°	3497.3	3500.0	3505.0	3508.8	3506.5	3506.1	3503.4	3497.7	3490.4	3483.9	3480.8
3°	3491.6	3497.7	3503.8	3507.7	3505.8	3505.0	3500.8	3493.5	3485.0	3478.1	3473.9
3.5°	3488.1	3495.0	3501.5	3505.8	3503.8	3501.9	3497.3	3489.2	3479.7	3471.6	3467.4
4°	3483.9	3491.9	3498.5	3503.1	3501.1	3499.2	3493.5	3483.5	3473.5	3464.7	3458.2
4.5°	3478.5	3488.1	3494.6	3499.6	3498.1	3495.4	3488.1	3477.3	3466.6	3455.9	3449.3
5°	3473.1	3483.1	3490.4	3495.8	3494.2	3490.8	3482.3	3470.4	3457.4	3446.6	3439.4
5.5°	3468.1	3477.3	3485.8	3490.8	3490.0	3485.8	3475.4	3462.4	3447.8	3436.7	3428.2
6°	3459.3	3470.8	3480.0	3485.4	3485.0	3479.7	3467.8	3452.8	3437.8	3425.9	3416.7
6.5°	3451.6	3464.3	3473.5	3479.7	3478.9	3472.7	3460.5	3442.4	3426.7	3414.4	3403.7
7°	3442.8	3456.2	3465.8	3473.1	3472.4	3465.8	3450.9	3432.1	3415.2	3401.7	3391.4
7.5°	3432.8	3447.4	3457.8	3465.1	3464.7	3457.8	3441.3	3419.8	3401.7	3387.9	3376.8
8°	3422.1	3437.8	3449.3	3456.2	3456.6	3449.3	3430.9	3407.5	3388.3	3373.7	3362.6
8.5°	3411.0	3427.5	3439.7	3447.0	3447.8	3439.4	3419.4	3394.4	3374.1	3359.1	3346.9
9°	3398.7	3415.9	3429.8	3437.0	3437.8	3429.0	3407.9	3380.6	3358.8	3343.8	3331.9
9.5°	3385.2	3404.4	3418.2	3426.3	3427.5	3418.2	3394.4	3365.7	3343.8	3327.3	3315.0
10°	3371.4	3391.8	3407.1	3414.8	3415.9	3406.0	3381.0	3350.7	3326.5	3310.8	3297.7
10.5°	3356.4	3377.9	3394.4	3402.5	3403.3	3393.3	3366.8	3334.2	3309.6	3293.5	3280.1
11°	3341.1	3364.1	3382.2	3389.5	3390.2	3379.1	3351.8	3317.7	3291.6	3275.5	3262.0
11.5°	3325.0	3349.2	3367.6	3375.3	3376.0	3364.9	3336.5	3300.4	3272.4	3257.0	3243.2
12°	3306.9	3333.4	3353.8	3360.3	3361.1	3349.2	3319.6	3282.4	3253.6	3237.9	3223.6
12.5°	3289.3	3316.9	3337.6	3345.3	3345.3	3333.0	3302.3	3263.9	3234.0	3217.9	3204.1
13°	3271.2	3300.4	3322.3	3330.0	3330.0	3316.5	3285.4	3245.1	3214.1	3197.5	3183.7
13.5°	3251.7	3282.0	3305.4	3312.3	3311.5	3298.1	3266.3	3225.2	3192.6	3176.8	3162.6
14°	3232.5	3263.9	3287.7	3295.0	3293.5	3280.1	3247.4	3204.8	3171.5	3154.9	3140.7
14.5°	3211.8	3244.4	3269.3	3277.0	3273.9	3260.1	3227.9	3183.3	3149.6	3131.9	3118.5
15°	3190.6	3225.2	3250.1	3258.2	3255.5	3240.5	3206.8	3161.9	3126.5	3108.5	3095.5
15.5°	3168.8	3204.5	3230.6	3239.4	3234.8	3220.2	3185.3	3139.6	3103.1	3085.9	3071.7
16°	3146.5	3183.0	3210.2	3218.3	3214.4	3199.1	3164.2	3116.9	3079.7	3061.7	3046.7
16.5°	3123.5	3161.5	3188.7	3197.5	3192.9	3176.8	3141.5	3093.5	3055.5	3036.3	3021.4
17°	3100.1	3139.2	3167.6	3176.4	3170.3	3154.6	3118.9	3069.7	3030.2	3010.2	2995.7
17.5°	3075.5	3116.6	3145.4	3154.9	3148.0	3131.5	3095.1	3044.4	3005.3	2984.1	2968.4
18°	3051.3	3092.8	3122.7	3131.9	3124.2	3108.1	3071.7	3019.8	2978.4	2957.3	2940.8
18.5°	3026.4	3068.6	3098.9	3108.9	3100.4	3084.3	3046.7	2993.7	2952.3	2929.6	2913.5
19°	3000.7	3044.0	3075.9	3085.5	3076.6	3060.1	3021.4	2967.6	2925.8	2902.8	2884.0
19.5°	2974.6	3018.7	3050.9	3061.3	3052.5	3034.8	2995.7	2940.8	2899.7	2873.6	2854.4
20°	2948.5	2993.4	3026.8	3036.7	3027.5	3008.7	2970.3	2914.7	2872.1	2844.8	2824.9
20.5°	2921.2	2966.5	3001.4	3010.2	3001.0	2983.4	2943.5	2887.0	2844.1	2815.7	2795.3
21°	2894.0	2939.6	2975.7	2984.9	2975.3	2956.9	2915.8	2859.8	2816.4	2786.9	2765.8



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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°	2809.9	2856.0	2894.7	2903.5	2898.6	2874.4	2832.2	2777.7	2728.9	2696.3	2669.4
23°	2781.1	2826.8	2866.3	2875.5	2871.3	2845.2	2804.5	2748.1	2697.8	2664.8	2637.2
23.5°	2751.9	2796.8	2837.5	2846.7	2844.1	2816.0	2776.5	2718.6	2667.5	2632.6	2603.8
24°	2721.6	2767.3	2807.2	2817.2	2816.8	2786.9	2746.6	2688.6	2636.4	2600.7	2570.8
24.5°	2690.9	2737.0	2777.3	2787.6	2789.6	2762.3	2715.5	2658.3	2606.5	2568.5	2537.0
25°	2659.8	2706.3	2746.6	2757.3	2759.6	2732.0	2684.0	2628.0	2574.6	2536.2	2504.4
25.5°	2628.7	2673.6	2715.5	2725.8	2729.7	2700.9	2652.5	2596.5	2543.1	2503.2	2470.6
26°	2597.6	2642.6	2683.2	2695.1	2700.1	2670.6	2620.7	2565.8	2511.7	2470.6	2437.2
26.5°	2564.6	2610.7	2650.2	2663.3	2670.2	2638.3	2587.7	2533.9	2479.8	2437.6	2403.1
27°	2532.4	2576.9	2617.6	2631.0	2639.9	2607.2	2555.4	2502.5	2446.4	2404.6	2369.3
27.5°	2498.6	2542.8	2583.4	2598.4	2608.0	2574.6	2522.8	2470.2	2414.6	2370.8	2334.4
28°	2465.2	2508.6	2548.1	2564.6	2576.2	2542.4	2489.8	2437.2	2381.2	2335.1	2298.3
28.5°	2431.1	2474.1	2512.8	2530.9	2544.7	2509.4	2456.4	2404.6	2347.8	2299.0	2261.0
29°	2396.1	2438.8	2476.7	2496.3	2512.4	2476.4	2421.9	2370.4	2312.9	2263.3	2223.8
29.5°	2360.5	2401.9	2439.5	2461.4	2478.7	2443.4	2387.3	2334.7	2276.4	2226.1	2184.3
30°	2324.4	2364.7	2402.3	2425.7	2445.3	2409.6	2352.0	2299.0	2239.2	2188.5	2145.1
30.5°	2287.5	2327.1	2364.7	2388.1	2411.1	2374.7	2316.3	2261.8	2202.3	2149.0	2105.2
31°	2249.9	2288.7	2324.8	2352.0	2377.7	2339.7	2279.5	2224.6	2162.8	2109.4	2064.5
31.5°	2211.1	2249.5	2286.8	2314.0	2341.6	2304.4	2242.2	2186.2	2122.5	2069.5	2023.5
32°	2170.8	2208.8	2246.5	2275.2	2306.0	2268.3	2205.0	2147.1	2081.0	2028.5	1981.2
32.5°	2131.3	2170.1	2206.5	2235.7	2269.9	2231.1	2166.6	2107.1	2039.2	1986.6	1939.8
33°	2089.9	2129.0	2167.0	2196.9	2233.0	2193.5	2127.9	2065.3	1996.2	1943.2	1898.3
33.5°	2047.3	2087.9	2128.2	2157.4	2194.3	2155.5	2088.7	2023.1	1952.1	1899.9	1856.5
34°	2002.4	2045.7	2087.2	2117.5	2156.3	2116.3	2048.8	1980.5	1907.6	1856.9	1813.9
34.5°	1956.7	2004.3	2046.1	2077.2	2114.8	2075.3	2009.3	1936.7	1860.3	1810.8	1770.1
35°	1909.1	1960.9	2004.3	2035.0	2074.1	2034.6	1968.6	1891.8	1814.3	1764.8	1726.8
35.5°	1861.5	1917.5	1964.4	1993.1	2031.1	1993.5	1927.9	1847.3	1768.6	1719.1	1682.3
36°	1810.4	1873.8	1920.6	1951.3	1988.2	1951.7	1886.1	1802.4	1722.6	1672.7	1636.2
36.5°	1759.4	1827.3	1879.5	1909.5	1942.1	1908.3	1842.7	1756.7	1675.7	1625.4	1588.6
37°	1706.8	1780.1	1835.8	1865.3	1895.3	1863.4	1798.2	1711.4	1627.4	1577.9	1538.7
37.5°	1654.6	1731.0	1790.9	1820.0	1846.9	1817.4	1753.3	1664.6	1581.7	1529.5	1490.0
38°	1600.5	1680.7	1744.0	1771.3	1797.0	1769.0	1706.4	1618.2	1533.7	1480.0	1438.5
38.5°	1549.1	1630.4	1697.2	1725.6	1744.4	1720.3	1658.8	1571.3	1486.1	1430.1	1387.5
39°	1495.3	1578.2	1647.7	1675.7	1692.6	1670.0	1609.3	1524.1	1437.4	1379.8	1336.4
39.5°	1443.5	1526.0	1597.4	1625.8	1639.3	1617.8	1559.1	1475.4	1389.0	1329.1	1283.5
40°	1391.7	1470.8	1544.8	1574.0	1585.5	1562.9	1507.6	1425.5	1337.6	1276.9	1230.5
40.5°	1340.3	1417.0	1494.2	1521.1	1532.6	1508.0	1456.2	1375.6	1287.3	1225.5	1176.4
41°	1288.1	1366.4	1442.4	1466.9	1479.6	1452.0	1400.9	1325.3	1235.9	1174.5	1122.7
41.5°	1236.6	1313.8	1389.4	1413.2	1428.6	1396.7	1346.8	1275.8	1184.4	1125.7	1069.7
42°	1184.8	1260.8	1334.9	1381.3	1376.4	1341.0	1291.9	1223.2	1132.6	1074.7	1017.5
42.5°	1133.0	1208.2	1280.4	1323.0	1326.1	1285.8	1237.8	1171.4	1084.7	1025.2	967.2
43°	1080.4	1155.3	1225.9	1263.5	1275.0	1231.3	1184.1	1118.4	1035.1	976.0	918.8
43.5°	1029.0	1104.2	1171.8	1204.4	1220.9	1177.9	1130.3	1067.0	988.7	927.7	871.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	880.9	951.1	1007.9	1039.4	1062.4	1019.8	970.7	913.1	847.1	786.4	736.5
45.5°	834.0	900.0	954.2	988.3	1010.2	966.8	918.5	865.1	800.6	741.5	694.3
46°	785.7	850.5	900.8	937.3	959.9	916.2	867.8	815.6	755.3	697.0	653.3
46.5°	738.1	801.4	847.8	886.6	911.2	866.3	816.8	767.6	709.3	655.9	613.7
47°	691.6	752.7	797.2	835.6	862.4	817.5	767.6	718.9	664.8	613.3	575.0
47.5°	646.3	704.7	748.4	786.0	814.1	769.9	719.7	672.8	621.8	574.2	538.5
48°	602.2	658.2	700.5	737.3	766.5	725.0	673.2	626.4	580.3	535.8	503.6
48.5°	560.0	613.3	653.3	690.1	719.7	681.7	628.7	582.2	539.6	500.1	470.6
49°	518.5	569.2	608.7	643.7	673.2	638.3	584.9	538.9	499.0	464.4	438.7
49.5°	478.6	526.2	565.0	598.7	627.2	596.4	544.6	497.8	459.8	430.6	407.2
50°	441.0	483.6	522.8	553.5	583.8	554.6	504.7	458.7	421.8	398.8	378.4
50.5°	403.8	442.2	481.3	510.5	541.2	515.1	467.1	421.4	386.1	370.8	352.0
51°	368.8	403.8	442.9	469.0	499.7	476.3	431.4	386.5	355.0	343.1	325.5
51.5°	334.3	367.3	405.3	429.9	461.0	439.5	397.2	356.9	324.3	315.1	299.4
52°	302.1	333.2	370.0	392.6	423.3	403.4	368.8	327.4	293.2	287.5	272.9
52.5°	271.4	300.1	335.5	356.2	386.9	372.7	340.1	297.5	262.5	259.8	248.3
53°	243.0	270.2	303.6	322.0	354.3	341.6	311.3	267.9	238.3	236.0	226.4
53.5°	216.1	242.6	272.5	290.2	321.6	310.9	282.5	243.0	216.5	214.6	205.0
54°	192.3	216.9	244.5	261.0	288.6	279.8	253.7	220.3	196.9	194.2	185.4
54.5°	170.4	192.7	216.9	233.4	256.4	249.1	230.3	199.6	179.2	174.6	165.4
55°	150.5	171.2	192.3	208.4	228.8	225.3	208.0	181.2	162.7	157.0	147.4
55.5°	131.3	150.1	168.9	185.0	203.8	200.7	186.9	162.7	146.6	139.3	129.7
56°	116.3	130.9	148.2	163.1	180.8	179.2	166.6	146.2	131.3	123.2	113.6
56.5°	100.9	115.5	130.1	142.4	159.7	158.5	147.4	130.5	116.7	107.9	98.3
57°	86.0	100.6	114.4	125.9	140.1	139.3	129.7	115.1	102.5	93.7	84.4
57.5°	71.0	85.2	98.3	109.8	121.3	120.9	112.8	100.6	89.4	80.6	71.4
58°	56.8	69.9	82.5	93.3	104.4	104.0	97.5	87.1	76.8	67.2	57.2
58.5°	43.0	54.9	66.8	77.1	89.0	88.7	83.3	74.1	63.3	57.2	48.7
59°	31.5	41.5	51.8	61.0	74.1	74.8	69.1	59.9	53.7	47.2	39.9
59.5°	23.0	30.3	38.0	45.7	62.6	64.5	58.3	50.7	44.1	36.8	31.5
60°	17.3	21.9	27.6	33.4	51.0	54.1	48.0	41.5	34.2	26.9	23.0
60.5°	12.7	16.5	20.0	23.8	39.5	43.8	37.2	32.2	24.6	16.9	14.2
61°	10.7	14.2	15.0	17.7	28.0	33.4	26.5	23.0	15.4	13.0	11.1
61.5°	8.8	11.9	12.7	13.0	16.5	23.0	16.1	13.8	11.5	10.4	8.8
62°	6.9	9.6	10.4	11.1	12.3	12.7	12.3	10.4	8.8	8.1	7.3
62.5°	5.0	7.3	8.1	9.2	9.6	9.6	9.2	8.4	6.9	6.5	5.8
63°	4.2	5.4	6.1	7.3	7.7	7.7	7.3	6.5	5.8	5.4	5.0
63.5°	3.5	4.2	5.0	5.4	6.1	6.1	5.8	5.4	4.6	4.6	4.2
64°	2.7	3.5	4.2	4.6	5.0	5.0	5.0	4.6	3.8	3.8	3.5
64.5°	2.3	3.1	3.5	3.8	4.2	4.2	3.8	3.8	3.1	3.1	3.1
65°	1.9	2.7	3.1	3.1	3.5	3.5	3.5	3.1	2.7	2.7	2.7
65.5°	1.9	2.3	2.3	2.7	3.1	2.7	2.7	2.7	2.3	2.3	2.3
66°	1.5	1.9	2.3	2.3	2.3	2.3	2.3	2.3	1.9	1.9	1.9



TEST NUMBER: P776390

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	1.2	1.2	1.5	1.5	1.5	1.5	1.5	1.5	1.2	1.2	1.2
68°	0.8	1.2	1.2	1.2	1.5	1.2	1.5	1.2	1.2	1.2	1.2
68.5°	0.8	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
69°	0.8	0.8	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8
69.5°	0.8	0.8	0.8	0.8	1.2	0.8	0.8	0.8	0.8	0.8	0.8
70°	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
70.5°	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
71°	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
71.5°	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4
72°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
72.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
73°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
73.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
74°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
74.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
75°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
75.5°	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
76°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
76.5°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.4
77°	0.0	0.0	0.0	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78°	0.0	0.0	0.0	0.0	0.0	0.0	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: P776390
CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-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: P776390

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3501.9	3501.9	3501.9	3501.9	3501.9	3501.9
0.5°	3500.8	3496.5	3498.8	3500.8	3501.9	3501.1
1°	3496.9	3491.9	3494.6	3497.7	3499.6	3500.4
1.5°	3491.9	3486.6	3490.0	3493.5	3497.7	3499.2
2°	3485.8	3480.0	3483.9	3488.9	3493.5	3497.3
2.5°	3479.3	3472.7	3476.6	3483.5	3489.6	3497.3
3°	3471.6	3464.3	3469.3	3476.6	3485.8	3491.6
3.5°	3463.1	3455.1	3460.5	3470.1	3480.4	3488.1
4°	3454.3	3445.5	3451.3	3462.4	3475.0	3483.9
4.5°	3444.3	3434.4	3441.3	3453.9	3468.1	3478.5
5°	3433.2	3422.5	3430.1	3444.3	3460.8	3473.1
5.5°	3421.3	3410.6	3418.2	3434.4	3452.4	3468.1
6°	3408.6	3397.5	3406.3	3424.0	3444.0	3459.3
6.5°	3395.2	3382.9	3392.9	3412.1	3434.4	3451.6
7°	3381.4	3369.1	3379.1	3399.8	3424.4	3442.8
7.5°	3366.4	3353.4	3364.5	3387.5	3413.3	3432.8
8°	3351.5	3336.9	3349.5	3373.7	3401.4	3422.1
8.5°	3335.3	3320.0	3333.4	3359.1	3387.9	3411.0
9°	3319.2	3303.1	3316.5	3344.2	3374.5	3398.7
9.5°	3301.2	3285.1	3299.6	3328.0	3359.9	3385.2
10°	3283.5	3267.0	3281.6	3311.9	3344.9	3371.4
10.5°	3264.7	3247.1	3263.6	3294.7	3329.2	3356.4
11°	3245.5	3227.1	3244.4	3276.2	3312.7	3341.1
11.5°	3226.0	3207.1	3224.4	3257.4	3295.4	3325.0
12°	3205.2	3185.7	3204.1	3238.2	3277.0	3306.9
12.5°	3184.5	3164.5	3183.3	3217.9	3258.2	3289.3
13°	3162.6	3142.3	3161.5	3197.5	3239.4	3271.2
13.5°	3140.4	3119.6	3138.8	3176.1	3219.0	3251.7
14°	3116.9	3096.6	3115.8	3154.9	3198.7	3232.5
14.5°	3093.2	3072.8	3092.4	3132.7	3177.2	3211.8
15°	3068.6	3048.2	3068.2	3109.7	3156.5	3190.6
15.5°	3044.8	3022.5	3043.3	3085.9	3133.1	3168.8
16°	3019.1	2997.6	3018.3	3062.4	3110.4	3146.5
16.5°	2993.4	2970.7	2992.2	3038.7	3087.4	3123.5
17°	2966.5	2944.6	2966.1	3013.7	3063.6	3100.1
17.5°	2940.4	2917.0	2939.2	2987.2	3037.9	3075.5
18°	2913.5	2889.0	2912.4	2961.1	3012.6	3051.3
18.5°	2885.5	2860.6	2885.1	2934.3	2986.8	3026.4
19°	2857.9	2832.9	2856.3	2906.6	2960.0	3000.7
19.5°	2829.9	2804.1	2828.7	2879.4	2933.1	2974.6
20°	2801.8	2774.2	2800.7	2850.6	2905.5	2948.5
20.5°	2774.2	2745.0	2771.9	2821.4	2876.7	2921.2
21°	2744.3	2715.5	2742.7	2792.2	2847.9	2894.0



TEST NUMBER: P776390

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2652.5	2625.7	2652.5	2699.7	2757.7	2809.9
23°	2621.1	2594.6	2621.1	2668.3	2726.6	2781.1
23.5°	2590.0	2563.9	2591.1	2636.8	2695.1	2751.9
24°	2557.7	2532.4	2558.9	2604.6	2662.9	2721.6
24.5°	2525.5	2500.9	2527.8	2571.6	2631.4	2690.9
25°	2493.3	2468.3	2495.2	2538.5	2599.2	2659.8
25.5°	2460.2	2436.1	2462.9	2505.5	2566.2	2628.7
26°	2428.0	2403.4	2428.8	2470.6	2533.6	2597.6
26.5°	2394.2	2369.7	2394.2	2437.2	2500.2	2564.6
27°	2359.7	2335.1	2359.3	2400.8	2466.4	2532.4
27.5°	2324.4	2300.6	2323.2	2365.1	2431.8	2498.6
28°	2288.3	2262.6	2285.2	2328.6	2396.5	2465.2
28.5°	2250.7	2225.0	2249.1	2291.8	2360.8	2431.1
29°	2213.1	2186.2	2210.4	2254.5	2324.8	2396.1
29.5°	2174.7	2147.1	2170.8	2215.8	2287.9	2360.5
30°	2134.8	2106.0	2130.5	2177.4	2251.1	2324.4
30.5°	2094.1	2062.2	2089.9	2137.8	2212.3	2287.5
31°	2052.6	2018.5	2046.9	2098.3	2173.5	2249.9
31.5°	2010.4	1974.0	2003.9	2059.2	2134.4	2211.1
32°	1967.8	1928.3	1959.0	2016.9	2094.9	2170.8
32.5°	1923.3	1883.0	1914.5	1976.6	2054.6	2131.3
33°	1878.0	1835.8	1868.8	1935.2	2012.3	2089.9
33.5°	1831.9	1789.3	1823.1	1893.4	1970.5	2047.3
34°	1785.5	1742.9	1777.8	1850.0	1927.1	2002.4
34.5°	1737.9	1696.1	1731.4	1804.3	1883.8	1956.7
35°	1691.1	1650.0	1684.2	1758.6	1837.7	1909.1
35.5°	1643.9	1603.6	1638.9	1711.8	1792.0	1861.5
36°	1595.5	1557.9	1592.8	1664.2	1742.5	1810.4
36.5°	1547.5	1511.5	1546.4	1615.5	1692.2	1759.4
37°	1498.8	1464.2	1499.2	1561.7	1640.4	1706.8
37.5°	1449.7	1415.9	1451.2	1511.5	1589.8	1654.6
38°	1400.2	1368.3	1401.7	1458.1	1534.5	1600.5
38.5°	1349.1	1316.1	1350.3	1406.7	1480.0	1549.1
39°	1299.6	1263.9	1298.8	1377.1	1423.6	1495.3
39.5°	1248.9	1211.3	1247.4	1317.2	1359.9	1443.5
40°	1197.9	1159.1	1195.6	1257.0	1306.9	1391.7
40.5°	1147.2	1108.8	1144.1	1197.1	1253.9	1340.3
41°	1096.9	1060.5	1090.4	1137.2	1201.3	1288.1
41.5°	1049.0	1012.5	1038.6	1084.3	1148.4	1236.6
42°	998.3	966.1	987.9	1030.9	1095.0	1184.8
42.5°	949.6	918.8	939.2	978.3	1042.8	1133.0
43°	901.6	872.4	890.8	926.1	989.5	1080.4
43.5°	852.8	825.6	841.3	875.1	938.0	1029.0



TEST NUMBER: P776390

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	717.3	687.8	698.9	727.3	792.6	880.9
45.5°	674.0	644.8	652.1	681.3	747.7	834.0
46°	631.8	602.6	607.6	637.1	703.1	785.7
46.5°	592.6	560.0	563.8	594.5	660.9	738.1
47°	551.9	519.7	522.4	553.1	617.9	691.6
47.5°	514.7	480.2	482.8	513.9	578.0	646.3
48°	479.0	442.2	444.5	476.3	537.3	602.2
48.5°	444.5	404.9	408.8	440.6	498.6	560.0
49°	411.8	370.8	374.6	406.8	460.2	518.5
49.5°	380.7	337.8	342.4	374.2	424.5	478.6
50°	353.1	307.1	313.2	343.9	388.8	441.0
50.5°	325.9	279.4	285.2	314.7	355.8	403.8
51°	298.2	254.5	260.2	287.9	324.7	368.8
51.5°	271.0	231.8	236.8	261.8	295.2	334.3
52°	247.6	211.5	215.7	238.3	267.5	302.1
52.5°	224.9	193.1	195.7	216.1	241.4	271.4
53°	203.4	175.4	178.1	194.6	216.5	243.0
53.5°	184.2	159.3	160.8	174.3	193.4	216.1
54°	165.8	143.9	144.7	155.8	172.3	192.3
54.5°	148.2	130.1	130.9	138.2	152.8	170.4
55°	132.0	116.7	117.1	123.6	133.2	150.5
55.5°	115.9	103.2	103.6	109.0	118.2	131.3
56°	101.3	89.8	89.8	94.4	103.2	116.3
56.5°	87.9	76.4	76.0	80.2	88.3	100.9
57°	75.2	62.6	62.2	65.6	73.3	86.0
57.5°	61.4	48.7	48.7	51.4	59.1	71.0
58°	52.2	37.2	36.8	39.1	45.3	56.8
58.5°	43.0	28.0	27.3	28.8	33.8	43.0
59°	33.8	20.7	20.3	21.5	24.9	31.5
59.5°	24.6	15.7	15.4	16.1	18.4	23.0
60°	15.4	13.4	13.0	13.8	13.8	17.3
60.5°	11.9	10.7	10.7	11.5	11.9	12.7
61°	9.6	8.4	8.1	9.6	9.6	10.7
61.5°	7.7	6.1	5.8	7.3	7.7	8.8
62°	6.1	5.0	5.0	5.0	5.8	6.9
62.5°	5.0	4.2	3.8	4.2	4.6	5.0
63°	4.2	3.5	3.5	3.5	3.8	4.2
63.5°	3.5	3.1	2.7	2.7	3.1	3.5
64°	3.1	2.7	2.3	2.3	2.7	2.7
64.5°	2.7	2.3	1.9	1.9	2.3	2.3
65°	2.3	1.9	1.5	1.9	1.9	1.9
65.5°	1.9	1.5	1.5	1.5	1.5	1.9
66°	1.5	1.5	1.2	1.2	1.5	1.5



TEST NUMBER: P776390
 CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	1.2	1.2	0.8	0.8	1.2	1.2
68°	1.2	0.8	0.8	0.8	0.8	0.8
68.5°	0.8	0.8	0.8	0.8	0.8	0.8
69°	0.8	0.8	0.8	0.8	0.8	0.8
69.5°	0.8	0.8	0.8	0.8	0.8	0.8
70°	0.8	0.8	0.4	0.4	0.4	0.4
70.5°	0.8	0.4	0.4	0.4	0.4	0.4
71°	0.4	0.4	0.4	0.4	0.4	0.4
71.5°	0.4	0.4	0.4	0.4	0.4	0.4
72°	0.4	0.4	0.4	0.4	0.4	0.4
72.5°	0.4	0.4	0.4	0.4	0.4	0.4
73°	0.4	0.4	0.4	0.4	0.4	0.4
73.5°	0.4	0.4	0.4	0.4	0.4	0.4
74°	0.4	0.4	0.4	0.4	0.4	0.4
74.5°	0.4	0.4	0.4	0.4	0.4	0.4
75°	0.4	0.4	0.4	0.0	0.0	0.4
75.5°	0.4	0.0	0.0	0.0	0.0	0.0
76°	0.4	0.0	0.0	0.0	0.0	0.0
76.5°	0.0	0.0	0.0	0.0	0.0	0.0
77°	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0
78°	0.0	0.0	0.0	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: P776390

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-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°	2865.9	2912.0	2949.6	2958.4	2950.0	2930.0	2888.2	2832.5	2788.8	2758.1	2733.9
22°	2838.3	2884.4	2922.0	2931.2	2923.9	2903.5	2860.2	2804.9	2758.5	2727.4	2702.4



44°	978.0	1052.8	1117.3	1144.5	1167.6	1125.3	1075.8	1014.0	939.6	878.9	825.2
44.5°	928.8	1002.1	1062.4	1091.9	1114.6	1072.8	1024.0	963.4	894.7	833.3	781.4



66.5°	1.2	1.5	1.9	1.9	1.9	1.9	1.9	1.9	1.5	1.5	1.5
67°	1.2	1.5	1.5	1.5	1.9	1.9	1.9	1.5	1.5	1.5	1.5



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°	2713.6	2685.9	2712.8	2761.5	2818.0	2865.9
22°	2683.2	2655.6	2682.9	2731.2	2788.0	2838.3



44°	806.8	778.4	793.0	824.8	888.9	978.0
44.5°	762.3	732.3	746.1	775.7	840.6	928.8



66.5°	1.5	1.2	1.2	1.2	1.2	1.2
67°	1.2	1.2	1.2	1.2	1.2	1.2

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Scaled Data Report



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)