

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: P776387

Luminaire Tested: HCDJBL3040CSD-HCD6TRC-4000lm-3500K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776387
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-HCD6TRC-4000lm-3500K
Description: 6 INCH ROUND MEDIUM SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

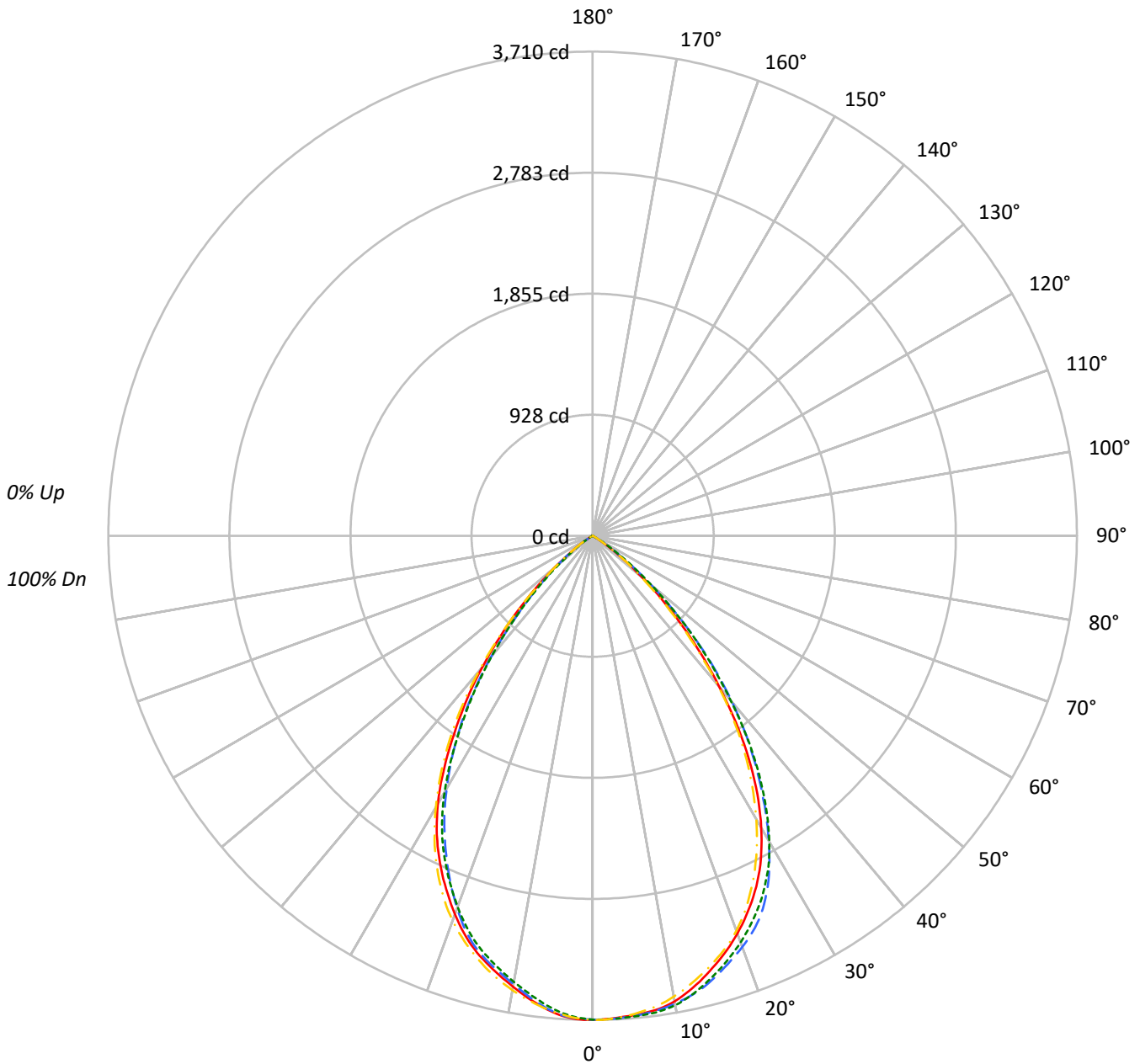
Lumens per Lamp: N/A
Luminaire Lumens: 4686.3 lumens
Efficiency: N/A
Efficacy: 121.7 lumens/watt
Spacing Criteria (0/90/45): 1.05 / 1.05 / 1.05
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P776387
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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				50				30				10			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	97	95	94	92	92	92	92
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84	84	84	84
3	100	93	88	83	98	92	87	83	89	85	81	87	83	80	84	81	79	77	77	77	77
4	94	86	80	75	93	85	79	75	83	78	74	81	76	73	79	75	72	70	70	70	70
5	89	80	73	68	87	79	72	68	77	71	67	75	70	67	73	69	66	64	64	64	64
6	84	74	67	62	82	73	67	62	71	66	62	70	65	61	68	64	61	59	59	59	59
7	79	68	62	57	77	68	61	57	66	61	57	65	60	56	64	59	56	54	54	54	54
8	74	64	57	53	73	63	57	52	62	56	52	61	56	52	60	55	52	50	50	50	50
9	70	60	53	49	69	59	53	48	58	52	48	57	52	48	56	51	48	46	46	46	46
10	66	56	49	45	65	55	49	45	54	49	45	54	48	45	53	48	45	43	43	43	43

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	203268	203268	203268	203268
5°	202867	203455	201309	199801
10°	201627	203308	195343	193216
15°	196159	199161	189184	186522
20°	189133	193398	179945	176421
25°	179381	185297	167405	162959
30°	163519	171242	150004	143636
35°	139695	148422	123754	115984
40°	107981	117620	94062	86068
45°	74628	84458	62355	54928
50°	42250	50557	32383	26822
55°	15885	21247	12884	10112
60°	1129	3662	526	614
65°	156	208	156	104
70°	64	64	64	64
75°	0	85	0	0
80°	0	0	0	0
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°

Vertical Angle: 45°

Luminance: 87358 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	346.8	7.4
10°-20°	955.5	20.4
20°-30°	1312.9	28.0
30°-40°	1220.6	26.0
40°-50°	689.2	14.7
50°-60°	159.0	3.4
60°-70°	2.0	0.0
70°-80°	0.2	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°	2615.3	55.8
0°-40°	3835.9	81.9
0°-60°	4684.1	100.0
0°-90°	4686.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4686.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3708	3708	3708	3708	3708	
5°	3686	3697	3658	3631	3686	350
15°	3456	3509	3333	3286	3456	972
25°	2966	3063	2768	2694	2966	1355
35°	2087	2218	1849	1733	2087	1287
45°	963	1089	804	708	963	744
55°	166	222	135	106	166	172
65°	1	2	1	1	1	2
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°	3707.9	3707.9	3707.9	3707.9	3707.9	3707.9	3707.9	3707.9	3707.9	3707.9	3707.9
0.5°	3709.1	3707.2	3707.2	3708.7	3706.8	3708.7	3710.3	3711.1	3709.9	3707.2	3705.6
1°	3707.5	3707.2	3707.2	3708.7	3707.2	3709.1	3709.9	3710.3	3709.5	3707.2	3704.8
1.5°	3705.2	3705.2	3706.4	3708.7	3706.4	3709.1	3707.9	3708.7	3707.5	3705.2	3702.4
2°	3703.2	3704.0	3705.6	3708.7	3706.0	3708.7	3705.6	3705.6	3705.2	3703.2	3699.2
2.5°	3700.8	3702.8	3704.8	3707.5	3705.2	3706.8	3702.4	3701.6	3700.8	3699.2	3695.2
3°	3697.6	3700.8	3702.8	3706.0	3704.0	3704.8	3698.4	3696.4	3694.8	3694.4	3690.1
3.5°	3694.8	3698.8	3700.8	3704.8	3702.8	3702.4	3694.0	3690.1	3687.3	3687.3	3682.9
4°	3692.4	3696.8	3698.8	3702.8	3700.8	3700.0	3689.3	3682.5	3679.3	3678.5	3674.5
4.5°	3689.3	3694.0	3696.4	3700.8	3699.2	3697.6	3683.3	3674.2	3669.4	3668.6	3663.8
5°	3686.5	3691.6	3693.6	3698.0	3697.2	3694.8	3677.7	3665.0	3658.2	3657.5	3651.9
5.5°	3684.1	3688.5	3690.5	3695.2	3695.2	3692.0	3671.0	3654.7	3645.9	3644.3	3638.8
6°	3680.1	3684.9	3686.5	3692.4	3693.6	3688.9	3664.2	3644.3	3633.6	3631.2	3624.1
6.5°	3676.5	3680.5	3682.5	3688.9	3690.5	3686.1	3657.1	3632.8	3619.3	3616.1	3609.3
7°	3671.8	3676.1	3677.7	3685.3	3687.7	3682.1	3649.9	3621.3	3605.0	3601.4	3593.0
7.5°	3666.2	3670.6	3673.0	3680.9	3684.5	3678.5	3641.2	3609.3	3589.9	3585.5	3576.3
8°	3660.2	3664.2	3667.4	3676.5	3680.1	3674.2	3631.6	3595.8	3574.4	3569.2	3558.8
8.5°	3653.1	3657.1	3661.4	3670.6	3674.5	3668.2	3621.7	3582.7	3558.1	3552.1	3541.8
9°	3643.9	3649.1	3655.1	3665.4	3667.8	3661.8	3610.9	3569.2	3542.5	3536.2	3524.3
9.5°	3633.6	3639.6	3648.3	3658.6	3660.2	3653.9	3598.6	3556.1	3525.8	3519.5	3507.2
10°	3622.1	3630.0	3640.8	3651.5	3652.3	3644.3	3585.5	3541.8	3509.2	3502.0	3490.1
10.5°	3609.3	3618.9	3633.2	3643.1	3641.9	3633.6	3572.4	3526.6	3492.1	3484.9	3472.2
11°	3594.6	3606.6	3624.1	3634.4	3630.4	3621.3	3558.5	3511.5	3475.0	3467.4	3454.7
11.5°	3580.3	3593.0	3615.3	3625.2	3618.1	3607.4	3542.9	3497.2	3458.3	3449.9	3437.6
12°	3564.0	3579.5	3604.6	3615.3	3604.2	3592.2	3527.4	3481.7	3441.6	3432.0	3421.3
12.5°	3547.3	3564.8	3594.2	3604.2	3590.3	3575.9	3510.7	3465.4	3424.1	3412.9	3404.6
13°	3529.8	3549.7	3581.9	3593.0	3575.2	3559.6	3495.6	3448.7	3407.0	3394.2	3388.3
13.5°	3512.7	3533.4	3570.0	3581.5	3559.2	3542.5	3478.1	3431.6	3389.1	3374.0	3370.8
14°	3493.6	3517.1	3556.5	3569.2	3542.9	3524.3	3462.2	3413.7	3371.2	3353.3	3353.3
14.5°	3475.8	3501.2	3541.8	3556.1	3525.8	3505.6	3444.3	3394.2	3352.9	3331.4	3334.6
15°	3456.3	3483.7	3525.8	3542.9	3509.2	3486.5	3427.2	3374.8	3333.4	3310.0	3315.5
15.5°	3437.2	3466.2	3509.9	3527.8	3491.7	3467.8	3409.0	3354.9	3313.9	3286.9	3295.2
16°	3417.7	3448.7	3493.2	3512.7	3473.4	3449.1	3391.9	3332.6	3293.3	3263.4	3273.8
16.5°	3397.8	3430.8	3475.8	3496.4	3455.5	3430.0	3372.8	3310.4	3271.0	3240.0	3249.5
17°	3376.8	3412.5	3458.7	3480.5	3436.4	3410.5	3353.7	3288.5	3247.5	3214.5	3224.1
17.5°	3356.9	3394.2	3441.2	3463.0	3416.9	3391.1	3334.6	3264.6	3222.9	3187.5	3196.6
18°	3335.0	3376.0	3423.7	3446.3	3397.0	3370.8	3313.5	3241.2	3198.2	3162.1	3167.2
18.5°	3313.1	3357.7	3406.2	3428.8	3377.5	3350.9	3292.9	3215.7	3170.8	3134.6	3135.8
19°	3289.7	3338.6	3388.7	3410.9	3356.9	3331.0	3270.2	3191.1	3143.4	3107.2	3103.6
19.5°	3265.8	3318.7	3370.8	3392.3	3336.6	3309.6	3245.5	3165.6	3114.3	3077.8	3070.6
20°	3242.0	3298.4	3352.1	3372.0	3315.1	3288.1	3220.5	3138.6	3084.5	3049.5	3036.4
20.5°	3216.9	3277.0	3333.8	3351.7	3292.1	3264.2	3193.9	3110.4	3054.3	3019.7	3000.6
21°	3192.3	3254.7	3314.3	3330.6	3269.4	3240.0	3166.4	3082.9	3024.1	2989.1	2964.8



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CATALOG NUMBER: HCDJBL3040CSD-HCD6TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	3112.4	3181.5	3250.3	3260.7	3197.8	3162.1	3076.6	2995.9	2930.7	2896.9	2857.1
23°	3085.3	3154.5	3225.7	3234.0	3171.6	3133.4	3044.8	2965.2	2899.6	2865.8	2818.9
23.5°	3056.3	3126.7	3200.6	3207.4	3146.1	3105.2	3011.4	2935.0	2868.6	2831.3	2780.0
24°	3026.9	3097.6	3172.0	3178.4	3119.5	3075.0	2978.0	2904.8	2835.2	2796.7	2741.0
24.5°	2996.3	3068.2	3142.2	3147.3	3091.7	3044.4	2944.6	2874.6	2801.4	2761.7	2701.6
25°	2965.6	3037.2	3110.8	3116.3	3063.4	3013.4	2910.8	2841.6	2767.6	2725.5	2662.7
25.5°	2933.4	3003.8	3077.4	3083.3	3034.0	2980.4	2877.4	2807.8	2732.3	2688.9	2622.9
26°	2899.2	2970.0	3041.6	3048.7	3001.4	2947.4	2836.8	2772.4	2696.5	2652.7	2583.2
26.5°	2864.7	2935.8	3005.0	3013.0	2968.8	2914.4	2798.3	2735.8	2659.9	2614.2	2543.4
27°	2828.9	2899.2	2966.0	2975.6	2936.2	2881.7	2760.5	2699.3	2621.7	2575.6	2502.8
27.5°	2791.5	2859.9	2925.9	2937.4	2903.6	2847.2	2719.5	2660.7	2583.6	2535.4	2460.3
28°	2751.3	2820.1	2882.1	2896.9	2870.6	2808.2	2679.8	2620.5	2544.6	2493.3	2417.8
28.5°	2712.4	2778.4	2838.8	2855.5	2831.7	2771.2	2637.6	2578.8	2502.8	2449.2	2372.8
29°	2670.2	2735.0	2792.7	2811.8	2791.1	2729.9	2595.5	2536.6	2459.9	2404.6	2329.1
29.5°	2626.9	2692.9	2747.0	2767.6	2748.6	2689.7	2551.4	2492.5	2414.6	2359.3	2282.2
30°	2583.2	2646.0	2698.9	2722.3	2705.2	2647.6	2508.0	2448.0	2369.7	2312.8	2235.3
30.5°	2538.6	2601.4	2651.5	2677.4	2660.7	2605.0	2462.7	2401.5	2321.9	2265.1	2188.0
31°	2492.1	2554.9	2601.8	2628.5	2615.8	2560.1	2416.6	2353.7	2273.4	2216.6	2141.4
31.5°	2443.6	2507.2	2552.1	2580.8	2568.8	2516.0	2370.0	2306.0	2223.7	2167.3	2093.7
32°	2396.7	2457.9	2501.7	2530.3	2521.1	2469.8	2323.9	2257.5	2172.0	2117.6	2046.4
32.5°	2348.2	2408.6	2451.6	2480.2	2473.0	2424.1	2275.8	2207.4	2119.6	2065.1	1997.9
33°	2298.9	2358.9	2399.1	2429.3	2423.7	2374.4	2228.1	2156.5	2066.7	2012.2	1950.2
33.5°	2247.2	2308.4	2350.2	2378.8	2374.4	2325.9	2179.6	2105.3	2013.0	1959.7	1902.5
34°	2196.7	2255.9	2298.1	2326.7	2321.9	2275.8	2131.5	2052.8	1958.5	1905.3	1853.6
34.5°	2142.6	2203.9	2247.2	2275.8	2270.3	2224.9	2081.8	2001.1	1902.9	1852.4	1803.5
35°	2087.4	2149.0	2195.5	2223.7	2217.8	2171.6	2032.9	1947.8	1849.2	1798.7	1752.2
35.5°	2031.7	2094.9	2144.2	2172.0	2164.5	2119.6	1983.2	1894.9	1795.5	1744.2	1700.9
36°	1976.4	2040.4	2092.9	2120.4	2110.4	2065.1	1931.5	1841.3	1742.6	1691.4	1648.4
36.5°	1918.8	1984.8	2039.6	2067.9	2053.6	2010.6	1877.8	1788.0	1689.4	1637.3	1594.7
37°	1860.7	1930.7	1988.8	2014.6	1996.7	1956.2	1824.9	1735.1	1636.5	1584.0	1539.5
37.5°	1801.1	1873.5	1937.1	1960.5	1939.1	1900.1	1770.1	1681.8	1584.0	1530.7	1485.4
38°	1741.9	1817.0	1883.4	1906.5	1881.0	1842.4	1715.6	1627.3	1531.9	1475.9	1430.1
38.5°	1682.2	1760.1	1828.9	1850.4	1821.8	1784.8	1659.9	1573.7	1479.4	1422.6	1376.1
39°	1622.2	1703.3	1774.1	1796.3	1762.9	1727.1	1602.7	1519.6	1424.6	1368.5	1320.8
39.5°	1565.7	1646.4	1719.6	1740.3	1702.9	1668.3	1546.6	1465.5	1369.7	1314.8	1263.9
40°	1508.9	1587.2	1663.1	1685.4	1643.6	1608.3	1489.8	1410.7	1314.4	1260.0	1209.9
40.5°	1453.2	1529.1	1607.5	1628.5	1586.4	1549.8	1432.1	1356.6	1259.2	1206.7	1153.8
41°	1397.9	1471.5	1550.6	1571.7	1528.3	1491.0	1372.9	1302.5	1204.7	1153.8	1098.9
41.5°	1342.7	1407.1	1494.5	1514.0	1472.3	1432.5	1314.0	1248.0	1150.2	1100.5	1044.5
42°	1287.8	1355.4	1439.7	1457.2	1415.8	1375.3	1255.6	1193.2	1098.9	1048.8	991.6
42.5°	1232.5	1303.7	1383.2	1400.3	1362.5	1318.0	1199.1	1139.5	1050.0	997.6	942.3
43°	1177.3	1252.0	1326.8	1344.3	1308.1	1262.8	1141.5	1082.2	1000.3	946.7	891.8
43.5°	1122.4	1200.3	1270.3	1308.9	1252.4	1207.1	1085.0	1028.2	951.8	897.4	844.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	962.6	1040.1	1102.1	1126.8	1089.4	1041.7	926.4	869.9	804.3	756.2	708.1
45.5°	910.9	986.8	1045.7	1066.3	1034.5	988.4	875.1	817.5	757.0	709.3	666.4
46°	862.0	934.3	989.2	1012.7	982.1	935.5	823.8	767.4	710.1	665.2	624.6
46.5°	811.9	882.7	934.7	959.8	932.4	884.2	774.9	718.4	664.0	622.6	585.3
47°	762.2	833.0	881.1	906.5	880.7	834.1	725.6	669.5	618.7	580.9	546.7
47.5°	713.3	782.5	829.0	854.0	831.0	786.4	678.7	624.6	577.3	540.3	511.3
48°	667.6	733.2	777.3	802.3	782.9	739.1	633.4	578.1	534.0	501.4	475.5
48.5°	621.4	684.3	726.4	751.8	734.4	693.4	589.6	535.6	492.2	464.4	442.5
49°	578.5	638.1	677.9	702.9	685.4	649.3	546.7	493.8	451.3	429.0	409.9
49.5°	535.6	591.6	629.8	653.6	637.7	606.3	507.3	455.6	413.5	395.2	381.7
50°	495.4	545.9	584.9	607.5	592.8	564.2	467.6	418.3	379.7	365.4	353.5
50.5°	454.4	501.8	540.7	561.8	547.9	522.8	431.4	387.3	346.3	335.6	325.2
51°	417.1	458.8	497.4	517.7	505.7	483.5	396.8	356.6	312.9	306.1	297.0
51.5°	380.1	417.1	456.0	474.7	464.4	444.9	366.2	325.6	279.5	276.3	268.8
52°	343.9	378.5	416.3	433.4	424.6	407.9	335.6	294.6	252.5	249.7	243.7
52.5°	308.9	341.9	378.1	395.6	389.6	374.1	305.0	263.6	228.2	225.4	220.3
53°	276.7	307.7	341.9	357.8	355.1	340.3	274.3	238.2	206.7	202.8	197.6
53.5°	245.7	274.7	306.1	321.3	320.1	306.9	248.1	215.5	187.7	181.7	176.1
54°	216.3	244.9	273.9	287.5	285.5	273.1	222.7	193.6	168.6	161.4	154.7
54.5°	190.0	215.9	242.1	256.4	250.9	244.5	199.6	173.4	151.5	143.1	135.2
55°	166.2	189.7	213.5	227.0	222.3	217.5	176.5	154.3	134.8	125.2	116.1
55.5°	143.9	165.4	186.5	199.2	195.2	191.2	155.1	136.0	118.5	107.7	98.6
56°	126.0	141.9	160.6	173.0	170.6	167.8	135.2	118.5	103.0	91.8	81.9
56.5°	108.5	124.0	136.8	149.9	147.5	145.5	115.7	102.2	87.9	76.7	67.2
57°	90.7	106.2	118.9	131.6	126.0	124.8	97.8	86.3	73.6	63.2	55.3
57.5°	73.2	88.3	101.0	113.3	106.6	105.4	81.1	71.6	60.8	50.1	42.9
58°	55.3	70.4	83.1	95.4	88.3	87.5	66.8	58.8	47.7	37.0	30.6
58.5°	39.4	52.5	65.2	77.1	72.8	72.0	54.5	46.1	35.0	23.5	18.7
59°	24.3	37.0	49.3	59.2	59.6	58.8	42.1	33.4	22.3	10.3	6.4
59.5°	13.1	22.7	33.4	42.9	46.5	46.1	30.2	20.7	9.5	5.6	4.4
60°	10.3	11.9	19.9	27.4	33.4	33.0	17.9	8.0	4.8	4.0	3.6
60.5°	8.0	9.5	10.3	15.5	20.3	20.3	5.6	4.4	3.6	3.2	3.2
61°	5.2	7.6	8.3	12.3	7.6	7.2	3.6	3.2	3.2	2.8	2.8
61.5°	2.8	5.2	6.4	9.1	4.4	4.0	2.8	2.8	2.8	2.4	2.4
62°	2.4	3.2	4.8	6.4	3.2	3.2	2.4	2.4	2.4	2.4	2.0
62.5°	2.0	2.8	3.2	3.2	2.8	2.8	2.0	2.0	2.0	2.0	2.0
63°	2.0	2.4	2.8	2.8	2.4	2.4	2.0	2.0	1.6	1.6	1.6
63.5°	1.6	2.0	2.4	2.4	2.0	2.0	1.6	1.6	1.6	1.6	1.6
64°	1.2	1.6	2.0	2.0	2.0	1.6	1.6	1.6	1.6	1.6	1.2
64.5°	1.2	1.6	1.6	2.0	1.6	1.6	1.2	1.2	1.2	1.2	1.2
65°	1.2	1.2	1.6	1.6	1.6	1.6	1.2	1.2	1.2	1.2	1.2
65.5°	0.8	1.2	1.2	1.6	1.2	1.2	1.2	1.2	1.2	1.2	0.8
66°	0.8	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8	0.8	0.8



TEST NUMBER: P776387

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
68°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
68.5°	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.4
69°	0.4	0.4	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4	0.4
69.5°	0.4	0.4	0.8	0.8	0.8	0.4	0.4	0.4	0.4	0.4	0.4
70°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
70.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
71°	0.4	0.4	0.4	0.4	0.4	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	0.4	0.4	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°	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
74.5°	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
75°	0.0	0.0	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.4
75.5°	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
76°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
76.5°	0.0	0.0	0.0	0.0	0.0	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	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: P776387
CATALOG NUMBER: HCDJBL3040CSD-HCD6TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776387

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3707.9	3707.9	3707.9	3707.9	3707.9	3707.9
0.5°	3705.6	3703.6	3704.8	3707.9	3709.1	3709.1
1°	3703.2	3700.8	3700.8	3705.6	3707.2	3707.5
1.5°	3700.0	3696.4	3696.0	3702.4	3704.0	3705.2
2°	3695.2	3690.9	3689.7	3697.6	3700.8	3703.2
2.5°	3689.7	3684.1	3682.5	3692.0	3696.8	3700.8
3°	3682.1	3676.1	3674.2	3685.7	3692.4	3697.6
3.5°	3673.8	3666.6	3665.0	3678.1	3687.7	3694.8
4°	3663.8	3655.9	3654.7	3671.0	3682.9	3692.4
4.5°	3652.3	3643.9	3643.5	3662.6	3677.7	3689.3
5°	3639.6	3630.8	3630.8	3653.9	3672.2	3686.5
5.5°	3624.9	3617.3	3618.1	3644.3	3666.6	3684.1
6°	3610.9	3602.6	3604.6	3634.4	3660.2	3680.1
6.5°	3595.0	3587.1	3590.7	3624.1	3652.7	3676.5
7°	3579.5	3571.2	3575.9	3613.3	3645.9	3671.8
7.5°	3563.2	3555.7	3561.2	3601.0	3637.2	3666.2
8°	3545.7	3538.6	3546.1	3589.5	3629.2	3660.2
8.5°	3528.6	3522.3	3530.6	3576.7	3618.5	3653.1
9°	3511.9	3505.2	3514.3	3563.6	3607.8	3643.9
9.5°	3494.8	3488.1	3497.6	3549.7	3595.8	3633.6
10°	3477.3	3471.0	3482.1	3536.2	3583.1	3622.1
10.5°	3459.5	3453.9	3466.2	3521.1	3569.6	3609.3
11°	3442.8	3436.8	3449.9	3506.8	3554.9	3594.6
11.5°	3424.1	3419.3	3432.8	3491.7	3539.8	3580.3
12°	3406.6	3401.0	3415.7	3475.4	3524.3	3564.0
12.5°	3387.9	3383.5	3398.6	3458.7	3508.0	3547.3
13°	3369.2	3364.8	3381.1	3441.6	3492.5	3529.8
13.5°	3348.5	3346.1	3362.4	3423.7	3475.8	3512.7
14°	3328.6	3326.3	3343.8	3405.4	3459.1	3493.6
14.5°	3307.6	3307.2	3324.3	3385.5	3442.8	3475.8
15°	3286.5	3286.5	3304.0	3366.0	3425.7	3456.3
15.5°	3263.8	3265.0	3283.7	3344.9	3407.4	3437.2
16°	3240.8	3242.8	3261.8	3325.1	3389.5	3417.7
16.5°	3216.5	3219.7	3238.8	3304.0	3370.8	3397.8
17°	3191.9	3195.1	3214.9	3282.1	3351.7	3376.8
17.5°	3164.4	3168.8	3189.5	3259.9	3331.4	3356.9
18°	3138.2	3141.8	3163.2	3237.2	3309.6	3335.0
18.5°	3109.2	3113.5	3135.8	3214.1	3286.1	3313.1
19°	3079.8	3084.9	3107.6	3189.5	3261.5	3289.7
19.5°	3049.5	3054.7	3079.0	3164.4	3236.0	3265.8
20°	3018.5	3024.1	3049.5	3138.6	3209.0	3242.0
20.5°	2985.9	2993.1	3018.9	3110.8	3181.5	3216.9
21°	2952.5	2961.7	2987.9	3083.3	3152.1	3192.3

TEST NUMBER: P776387

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2853.5	2864.3	2893.7	2989.9	3057.1	3112.4
23°	2818.5	2832.1	2862.3	2957.3	3022.5	3085.3
23.5°	2781.2	2798.7	2828.9	2923.9	2987.5	3056.3
24°	2744.2	2764.9	2795.9	2888.5	2953.3	3026.9
24.5°	2706.4	2729.1	2760.5	2854.3	2917.5	2996.3
25°	2669.0	2694.1	2726.3	2817.3	2880.6	2965.6
25.5°	2629.7	2657.9	2689.3	2780.4	2842.8	2933.4
26°	2589.5	2620.1	2653.5	2742.2	2805.0	2899.2
26.5°	2548.6	2581.2	2615.4	2704.4	2766.4	2864.7
27°	2506.8	2541.0	2575.2	2664.3	2727.5	2828.9
27.5°	2463.5	2499.3	2533.5	2622.9	2688.1	2791.5
28°	2419.7	2456.3	2490.5	2579.6	2645.6	2751.3
28.5°	2374.4	2411.0	2446.8	2536.6	2604.2	2712.4
29°	2328.7	2365.7	2401.1	2491.7	2560.9	2670.2
29.5°	2281.4	2317.6	2353.0	2448.4	2517.6	2626.9
30°	2233.7	2269.1	2305.2	2401.1	2471.8	2583.2
30.5°	2186.0	2218.2	2255.9	2355.3	2427.3	2538.6
31°	2137.1	2167.7	2205.0	2307.2	2381.2	2492.1
31.5°	2087.4	2114.8	2151.0	2259.5	2334.7	2443.6
32°	2037.7	2061.1	2098.1	2213.0	2286.2	2396.7
32.5°	1988.0	2006.3	2045.2	2163.3	2238.8	2348.2
33°	1935.9	1953.0	1991.1	2114.8	2189.1	2298.9
33.5°	1885.0	1898.1	1936.3	2063.9	2141.4	2247.2
34°	1831.7	1844.0	1883.0	2013.4	2092.1	2196.7
34.5°	1780.4	1787.2	1828.1	1962.1	2041.6	2142.6
35°	1728.7	1733.1	1774.5	1908.8	1988.8	2087.4
35.5°	1675.9	1679.0	1721.6	1856.8	1937.1	2031.7
36°	1623.4	1626.2	1667.5	1803.5	1883.0	1976.4
36.5°	1568.5	1574.5	1615.4	1750.2	1828.9	1918.8
37°	1514.0	1520.8	1562.5	1694.1	1772.5	1860.7
37.5°	1459.6	1468.3	1509.3	1638.5	1716.0	1801.1
38°	1404.7	1410.7	1455.6	1582.8	1659.2	1741.9
38.5°	1350.2	1358.6	1401.5	1525.2	1601.5	1682.2
39°	1294.6	1306.5	1347.0	1470.3	1543.1	1622.2
39.5°	1240.5	1254.4	1292.6	1408.7	1484.6	1565.7
40°	1187.2	1202.7	1238.1	1354.6	1422.6	1508.9
40.5°	1134.3	1149.4	1183.6	1300.1	1364.5	1453.2
41°	1082.2	1096.6	1129.2	1246.1	1306.5	1397.9
41.5°	1030.2	1046.1	1075.1	1191.6	1248.8	1342.7
42°	978.1	996.0	1023.4	1135.9	1190.8	1287.8
42.5°	928.0	946.7	972.9	1081.1	1133.1	1232.5
43°	877.5	897.4	921.6	1025.8	1078.3	1177.3
43.5°	828.6	850.5	871.5	970.5	1023.4	1122.4



TEST NUMBER: P776387

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	690.2	708.5	723.6	808.3	867.1	962.6
45.5°	647.7	663.2	675.1	757.8	818.2	910.9
46°	605.1	617.9	628.6	708.9	770.9	862.0
46.5°	566.2	575.7	583.3	661.2	725.2	811.9
47°	527.6	533.6	539.9	616.7	679.9	762.2
47.5°	491.4	492.2	497.4	573.3	634.2	713.3
48°	455.6	452.5	456.4	530.4	591.6	667.6
48.5°	421.4	416.3	418.3	491.0	549.5	621.4
49°	389.6	380.1	381.7	452.9	509.3	578.5
49.5°	361.0	347.5	348.3	418.3	469.6	535.6
50°	332.8	314.5	315.3	384.1	432.6	495.4
50.5°	304.2	285.9	285.9	350.7	395.2	454.4
51°	275.5	258.0	258.4	319.3	361.0	417.1
51.5°	250.1	234.2	233.8	291.8	328.0	380.1
52°	225.8	211.5	211.9	264.4	297.8	343.9
52.5°	203.2	191.2	191.2	238.6	268.4	308.9
53°	181.3	171.4	171.8	213.9	240.9	276.7
53.5°	160.6	153.9	153.9	191.6	214.7	245.7
54°	141.1	137.2	136.4	170.2	190.8	216.3
54.5°	123.3	121.7	120.9	149.9	167.0	190.0
55°	105.4	105.8	105.0	132.4	145.9	166.2
55.5°	89.1	90.3	89.5	115.3	128.0	143.9
56°	73.6	74.7	73.6	98.2	110.5	126.0
56.5°	60.4	60.8	59.6	81.1	92.6	108.5
57°	47.7	45.7	44.5	64.0	75.1	90.7
57.5°	34.6	31.0	29.4	48.9	57.7	73.2
58°	21.9	18.3	16.7	32.6	41.3	55.3
58.5°	8.7	14.7	13.1	19.5	26.6	39.4
59°	4.8	11.5	9.5	9.9	15.1	24.3
59.5°	3.6	8.7	6.4	8.0	11.9	13.1
60°	3.2	5.6	2.8	6.0	8.7	10.3
60.5°	2.8	2.4	2.4	4.4	5.6	8.0
61°	2.4	2.0	2.0	2.4	2.8	5.2
61.5°	2.0	2.0	1.6	2.0	2.4	2.8
62°	1.6	1.6	1.6	2.0	2.0	2.4
62.5°	1.6	1.6	1.2	1.6	1.6	2.0
63°	1.6	1.2	1.2	1.6	1.6	2.0
63.5°	1.2	1.2	1.2	1.2	1.2	1.6
64°	1.2	1.2	1.2	1.2	1.2	1.2
64.5°	1.2	0.8	0.8	1.2	1.2	1.2
65°	0.8	0.8	0.8	0.8	0.8	1.2
65.5°	0.8	0.8	0.8	0.8	0.8	0.8
66°	0.8	0.8	0.8	0.8	0.8	0.8



TEST NUMBER: P776387

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	0.8	0.4	0.4	0.4	0.4	0.8
68°	0.4	0.4	0.4	0.4	0.4	0.8
68.5°	0.4	0.4	0.4	0.4	0.4	0.4
69°	0.4	0.4	0.4	0.4	0.4	0.4
69.5°	0.4	0.4	0.4	0.4	0.4	0.4
70°	0.4	0.4	0.4	0.4	0.4	0.4
70.5°	0.4	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	0.0	0.4	0.4	0.4
73.5°	0.4	0.0	0.0	0.0	0.0	0.4
74°	0.4	0.0	0.0	0.0	0.0	0.0
74.5°	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0
75.5°	0.0	0.0	0.0	0.0	0.0	0.0
76°	0.0	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: P776387
CATALOG NUMBER: HCDJBL3040CSD-HCD6TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.0	0.0



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Cooper Lighting Solutions Photometric Lab
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Peachtree City, GA 30269

Scaled Data Report





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

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Scaled Data Report



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Scaled Data Report





21.5°	3166.0	3231.2	3294.1	3308.8	3245.9	3214.9	3138.2	3054.3	2993.1	2958.1	2928.7
22°	3139.4	3207.0	3272.6	3284.9	3222.1	3189.1	3108.4	3026.1	2961.7	2927.5	2892.9



44°	1067.1	1147.1	1213.8	1248.0	1196.8	1151.4	1032.1	975.3	902.1	850.1	798.4
44.5°	1013.9	1092.6	1157.4	1187.2	1144.7	1097.0	980.5	922.4	854.4	802.3	753.4



66.5°	0.8	0.8	1.2	1.2	1.2	1.2	0.8	0.8	0.8	0.8	0.8
67°	0.8	0.8	1.2	1.2	0.8	0.8	0.8	0.8	0.8	0.8	0.8



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°	2919.5	2929.5	2957.3	3053.5	3121.5	3166.0
22°	2886.5	2896.9	2925.9	3021.3	3090.1	3139.4



44°	780.1	801.5	821.0	915.3	970.1	1067.1
44.5°	734.8	755.0	772.5	860.4	918.0	1013.9

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66.5°	0.8	0.8	0.8	0.8	0.8	0.8
67°	0.8	0.8	0.4	0.8	0.8	0.8

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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)