

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: P776392

Luminaire Tested: HCDJBL3040CSD-HCD6TRH-4000lm-3500K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776392
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-3500K
Description: 6 INCH ROUND MEDIUM HAZE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

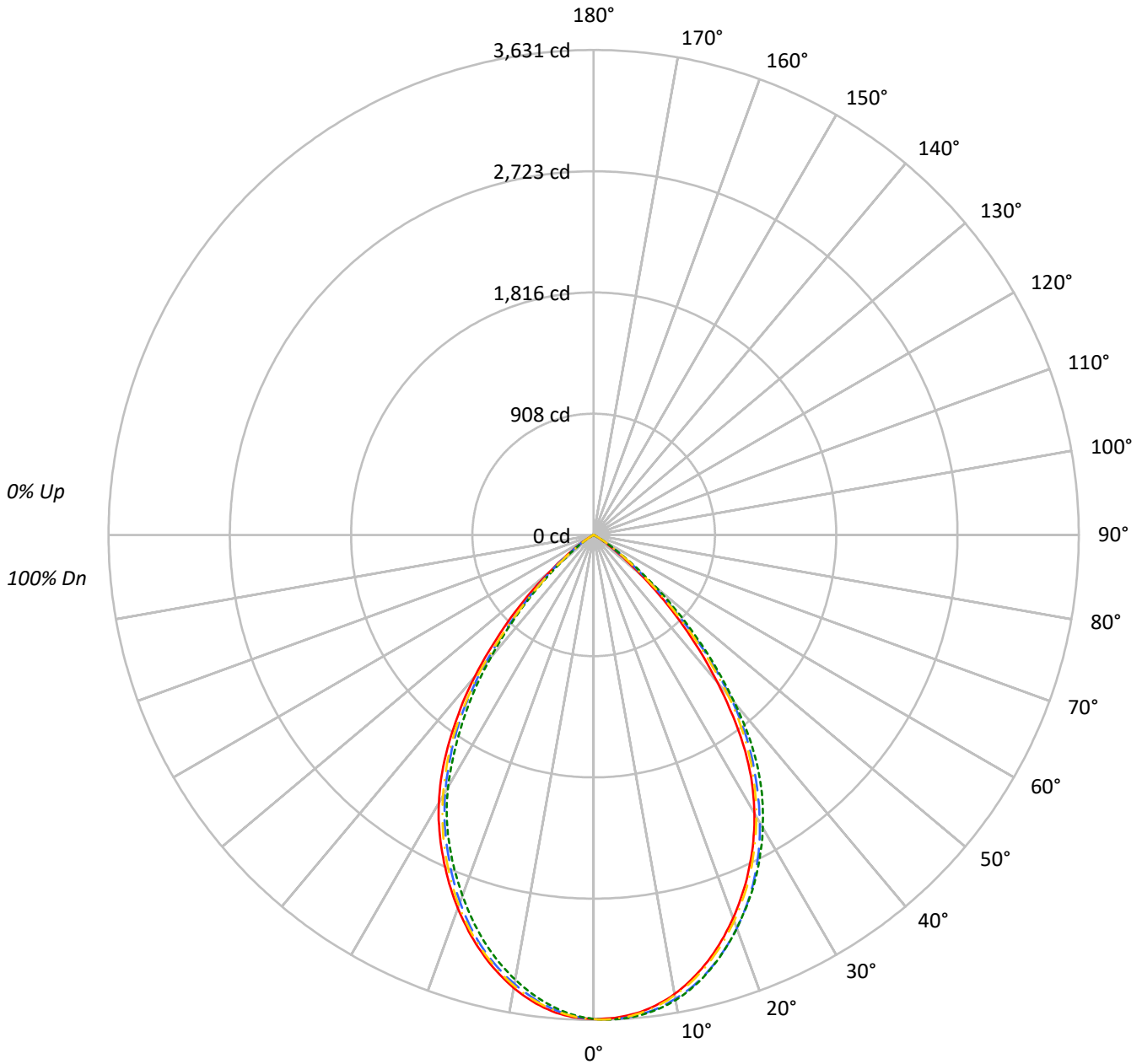
Lumens per Lamp: N/A
Luminaire Lumens: 4559.2 lumens
Efficiency: N/A
Efficacy: 118.4 lumens/watt
Spacing Criteria (0/90/45): 1.02 / 1.02 / 1.06
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

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°	198740	198740	198740	198740
5°	197859	199064	196962	194970
10°	194285	196851	191697	188268
15°	187464	191272	183696	179093
20°	178066	182844	173458	167542
25°	166552	172800	161217	154563
30°	152321	160240	146738	138009
35°	132267	143697	125695	114311
40°	103100	117463	99093	85875
45°	70697	85265	67984	55200
50°	38933	51538	37244	27112
55°	14891	22632	16105	11546
60°	1963	5789	3881	1524
65°	259	467	363	259
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: 85265 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	338.4	7.4
10°-20°	917.5	20.1
20°-30°	1241.1	27.2
30°-40°	1191.6	26.1
40°-50°	693.9	15.2
50°-60°	170.8	3.7
60°-70°	5.5	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°	2497.1	54.8
0°-40°	3688.7	80.9
0°-60°	4553.4	99.9
0°-90°	4559.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4559.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3625	3625	3625	3625	3625	
5°	3596	3617	3579	3543	3596	340
15°	3303	3370	3237	3156	3303	926
25°	2754	2857	2665	2555	2754	1262
35°	1976	2147	1878	1708	1976	1216
45°	912	1100	877	712	912	704
55°	156	237	168	121	156	161
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°	3625.3	3625.3	3625.3	3625.3	3625.3	3625.3	3625.3	3625.3	3625.3	3625.3	3625.3
0.5°	3624.5	3624.9	3627.7	3630.1	3626.5	3628.1	3628.9	3627.3	3623.7	3622.1	3622.5
1°	3623.7	3625.3	3629.3	3632.1	3628.9	3629.7	3629.7	3626.9	3622.1	3618.9	3619.3
1.5°	3622.5	3625.3	3629.7	3633.2	3630.1	3630.9	3629.3	3625.7	3620.5	3615.8	3615.0
2°	3620.5	3624.9	3629.7	3633.2	3630.9	3630.9	3628.9	3623.7	3616.6	3611.8	3609.8
2.5°	3620.5	3623.3	3628.5	3632.4	3630.1	3629.7	3626.9	3620.9	3613.4	3606.6	3603.4
3°	3614.6	3620.9	3627.3	3631.3	3629.3	3628.5	3624.1	3616.6	3607.8	3600.7	3596.3
3.5°	3611.0	3618.1	3624.9	3629.3	3627.3	3625.3	3620.5	3612.2	3602.3	3593.9	3589.5
4°	3606.6	3615.0	3621.7	3626.5	3624.5	3622.5	3616.6	3606.2	3595.9	3586.8	3580.0
4.5°	3601.1	3611.0	3617.7	3622.9	3621.3	3618.5	3611.0	3599.9	3588.7	3577.6	3570.9
5°	3595.5	3605.8	3613.4	3618.9	3617.4	3613.8	3605.0	3592.7	3579.2	3568.1	3560.5
5.5°	3590.3	3599.9	3608.6	3613.8	3613.0	3608.6	3597.9	3584.4	3569.3	3557.8	3549.0
6°	3581.2	3593.1	3602.6	3608.2	3607.8	3602.3	3589.9	3574.4	3558.9	3546.6	3537.1
6.5°	3573.2	3586.4	3595.9	3602.3	3601.5	3595.1	3582.4	3563.7	3547.4	3534.7	3523.6
7°	3564.1	3578.0	3587.9	3595.5	3594.7	3587.9	3572.5	3553.0	3535.5	3521.6	3510.9
7.5°	3553.8	3568.9	3579.6	3587.2	3586.8	3579.6	3562.5	3540.3	3521.6	3507.3	3495.8
8°	3542.7	3558.9	3570.9	3578.0	3578.4	3570.9	3551.8	3527.6	3507.7	3492.6	3481.1
8.5°	3531.1	3548.2	3560.9	3568.5	3569.3	3560.5	3539.9	3514.0	3493.0	3477.5	3464.8
9°	3518.4	3536.3	3550.6	3558.1	3558.9	3549.8	3527.9	3499.7	3477.1	3461.6	3449.3
9.5°	3504.5	3524.4	3538.7	3547.0	3548.2	3538.7	3514.0	3484.2	3461.6	3444.5	3431.8
10°	3490.2	3511.3	3527.2	3535.1	3536.3	3526.0	3500.1	3468.7	3443.7	3427.4	3413.9
10.5°	3474.7	3497.0	3514.0	3522.4	3523.2	3512.9	3485.4	3451.7	3426.2	3409.5	3395.6
11°	3458.8	3482.7	3501.3	3508.9	3509.7	3498.1	3469.9	3434.6	3407.6	3390.9	3377.0
11.5°	3442.1	3467.2	3486.2	3494.2	3495.0	3483.4	3454.0	3416.7	3387.7	3371.8	3357.5
12°	3423.5	3450.9	3471.9	3478.7	3479.5	3467.2	3436.6	3398.0	3368.2	3351.9	3337.2
12.5°	3405.2	3433.8	3455.2	3463.2	3463.2	3450.5	3418.7	3378.9	3348.0	3331.3	3317.0
13°	3386.5	3416.7	3439.3	3447.3	3447.3	3433.4	3401.2	3359.5	3327.3	3310.2	3295.9
13.5°	3366.2	3397.6	3421.9	3429.0	3428.2	3414.3	3381.3	3338.8	3305.0	3288.8	3274.1
14°	3346.4	3378.9	3403.6	3411.1	3409.5	3395.6	3361.9	3317.8	3283.2	3266.1	3251.4
14.5°	3324.9	3358.7	3384.5	3392.5	3389.3	3375.0	3341.6	3295.5	3260.5	3242.3	3228.4
15°	3303.1	3338.8	3364.6	3373.0	3370.2	3354.7	3319.7	3273.3	3236.7	3218.0	3204.5
15.5°	3280.4	3317.4	3344.4	3353.5	3348.8	3333.7	3297.5	3250.2	3212.5	3194.6	3179.9
16°	3257.4	3295.1	3323.3	3331.7	3327.7	3311.8	3275.6	3226.8	3188.2	3169.6	3154.1
16.5°	3233.5	3272.9	3301.1	3310.2	3305.4	3288.8	3252.2	3202.5	3163.2	3143.3	3127.8
17°	3209.3	3249.8	3279.2	3288.4	3282.0	3265.7	3228.8	3177.9	3137.0	3116.3	3101.2
17.5°	3183.9	3226.4	3256.2	3266.1	3259.0	3241.9	3204.1	3151.7	3111.1	3089.3	3073.0
18°	3158.8	3201.7	3232.7	3242.3	3234.3	3217.6	3179.9	3126.2	3083.3	3061.5	3044.4
18.5°	3133.0	3176.7	3208.1	3218.4	3209.7	3193.0	3154.1	3099.2	3056.3	3032.9	3016.2
19°	3106.4	3151.3	3184.3	3194.2	3185.0	3168.0	3127.8	3072.2	3028.9	3005.1	2985.6
19.5°	3079.4	3125.1	3158.4	3169.2	3160.0	3141.7	3101.2	3044.4	3001.9	2974.9	2955.0
20°	3052.3	3098.8	3133.4	3143.7	3134.2	3114.7	3075.0	3017.4	2973.3	2945.1	2924.4
20.5°	3024.1	3071.0	3107.2	3116.3	3106.8	3088.5	3047.2	2988.8	2944.3	2914.9	2893.8
21°	2995.9	3043.2	3080.5	3090.1	3080.2	3061.1	3018.6	2960.6	2915.7	2885.1	2863.2



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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°	2908.9	2956.6	2996.7	3005.8	3000.7	2975.7	2931.9	2875.5	2825.1	2791.3	2763.5
23°	2879.1	2926.4	2967.3	2976.8	2972.5	2945.5	2903.3	2844.9	2792.9	2758.7	2730.1
23.5°	2848.9	2895.4	2937.5	2947.0	2944.3	2915.3	2874.3	2814.3	2761.5	2725.3	2695.5
24°	2817.5	2864.8	2906.1	2916.4	2916.1	2885.1	2843.3	2783.3	2729.3	2692.4	2661.4
24.5°	2785.7	2833.4	2875.1	2885.9	2887.8	2859.6	2811.2	2752.0	2698.3	2659.0	2626.4
25°	2753.5	2801.6	2843.3	2854.5	2856.8	2828.2	2778.6	2720.6	2665.3	2625.6	2592.6
25.5°	2721.4	2767.8	2811.2	2821.9	2825.9	2796.1	2746.0	2688.0	2632.8	2591.4	2557.7
26°	2689.2	2735.7	2777.8	2790.1	2795.3	2764.7	2713.0	2656.2	2600.2	2557.7	2523.1
26.5°	2655.0	2702.7	2743.6	2757.1	2764.3	2731.3	2678.8	2623.2	2567.2	2523.5	2487.7
27°	2621.6	2667.7	2709.8	2723.7	2732.9	2699.1	2645.5	2590.6	2532.6	2489.3	2452.8
27.5°	2586.7	2632.4	2674.5	2690.0	2699.9	2665.3	2611.7	2557.3	2499.6	2454.3	2416.6
28°	2552.1	2597.0	2637.9	2655.0	2666.9	2632.0	2577.5	2523.1	2465.1	2417.4	2379.3
28.5°	2516.7	2561.2	2601.4	2620.0	2634.3	2597.8	2543.0	2489.3	2430.5	2380.0	2340.7
29°	2480.6	2524.7	2564.0	2584.3	2601.0	2563.6	2507.2	2453.9	2394.3	2343.1	2302.2
29.5°	2443.6	2486.5	2525.5	2548.1	2566.0	2529.4	2471.4	2417.0	2356.6	2304.6	2261.2
30°	2406.3	2448.0	2486.9	2511.2	2531.4	2494.5	2434.9	2380.0	2318.1	2265.6	2220.7
30.5°	2368.1	2409.1	2448.0	2472.2	2496.1	2458.3	2397.9	2341.5	2279.9	2224.7	2179.4
31°	2329.2	2369.3	2406.7	2434.9	2461.5	2422.2	2359.8	2303.0	2239.0	2183.8	2137.3
31.5°	2289.1	2328.8	2367.3	2395.5	2424.1	2385.6	2321.2	2263.2	2197.3	2142.4	2094.8
32°	2247.3	2286.7	2325.6	2355.4	2387.2	2348.3	2282.7	2222.7	2154.4	2099.9	2051.1
32.5°	2206.4	2246.5	2284.3	2314.5	2349.8	2309.7	2243.0	2181.4	2111.0	2056.6	2008.1
33°	2163.5	2204.0	2243.4	2274.4	2311.7	2270.8	2202.8	2138.1	2066.5	2011.7	1965.2
33.5°	2119.4	2161.5	2203.2	2233.4	2271.6	2231.4	2162.3	2094.4	2020.9	1966.8	1921.9
34°	2072.9	2117.8	2160.7	2192.1	2232.2	2190.9	2121.0	2050.3	1974.8	1922.3	1877.8
34.5°	2025.6	2074.9	2118.2	2150.4	2189.3	2148.4	2080.1	2005.0	1925.9	1874.6	1832.5
35°	1976.4	2030.0	2074.9	2106.7	2147.2	2106.3	2037.9	1958.5	1878.2	1827.0	1787.6
35.5°	1927.1	1985.1	2033.6	2063.4	2102.7	2063.8	1995.8	1912.4	1830.9	1779.7	1741.5
36°	1874.2	1939.8	1988.3	2020.1	2058.2	2020.5	1952.5	1865.9	1783.2	1731.6	1693.8
36.5°	1821.4	1891.7	1945.8	1976.7	2010.5	1975.6	1907.6	1818.6	1734.8	1682.7	1644.6
37°	1767.0	1842.8	1900.5	1931.1	1962.0	1929.1	1861.5	1771.7	1684.7	1633.4	1592.9
37.5°	1712.9	1792.0	1854.0	1884.2	1912.0	1881.4	1815.0	1723.2	1637.4	1583.4	1542.5
38°	1656.9	1739.9	1805.5	1833.7	1860.3	1831.3	1766.6	1675.2	1587.8	1532.1	1489.2
38.5°	1603.6	1687.9	1757.0	1786.4	1805.9	1780.9	1717.3	1626.7	1538.5	1480.5	1436.4
39°	1548.0	1633.8	1705.8	1734.8	1752.3	1728.8	1666.0	1577.8	1488.0	1428.4	1383.5
39.5°	1494.4	1579.8	1653.7	1683.1	1697.0	1674.8	1614.0	1527.4	1438.0	1376.0	1328.7
40°	1440.7	1522.6	1599.3	1629.5	1641.4	1618.0	1560.7	1475.7	1384.7	1321.9	1273.9
40.5°	1387.5	1467.0	1546.8	1574.6	1586.6	1561.1	1507.5	1424.1	1332.7	1268.7	1217.8
41°	1333.5	1414.5	1493.2	1518.6	1531.7	1503.1	1450.3	1372.0	1279.4	1215.8	1162.2
41.5°	1280.2	1360.1	1438.4	1463.0	1478.9	1445.9	1394.3	1320.7	1226.2	1165.4	1107.4
42°	1226.6	1305.3	1381.9	1430.0	1424.8	1388.3	1337.4	1266.3	1172.5	1112.5	1053.3
42.5°	1172.9	1250.8	1325.5	1369.6	1372.8	1331.1	1281.4	1212.7	1122.9	1061.3	1001.3
43°	1118.5	1196.0	1269.1	1308.0	1320.0	1274.7	1225.8	1157.8	1071.6	1010.4	951.2
43.5°	1065.3	1143.1	1213.1	1246.8	1263.9	1219.4	1170.2	1104.6	1023.5	960.4	902.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	911.9	984.6	1043.4	1076.0	1099.8	1055.7	1004.9	945.3	876.9	814.1	762.5
45.5°	863.4	931.8	987.8	1023.1	1045.8	1000.9	950.8	895.6	828.8	767.7	718.8
46°	813.3	880.5	932.5	970.3	993.7	948.4	898.4	844.3	782.0	721.6	676.3
46.5°	764.1	829.6	877.7	917.8	943.3	896.8	845.5	794.7	734.3	679.0	635.3
47°	716.0	779.2	825.3	865.0	892.8	846.3	794.7	744.2	688.2	634.9	595.2
47.5°	669.1	729.5	774.8	813.7	842.8	797.1	745.0	696.5	643.7	594.4	557.5
48°	623.4	681.4	725.1	763.3	793.5	750.6	696.9	648.5	600.8	554.7	521.3
48.5°	579.7	634.9	676.3	714.4	745.0	705.7	650.8	602.8	558.7	517.7	487.1
49°	536.8	589.2	630.2	666.3	696.9	660.8	605.5	557.9	516.5	480.8	454.2
49.5°	495.5	544.7	584.9	619.8	649.2	617.5	563.8	515.3	476.0	445.8	421.6
50°	456.5	500.6	541.2	573.0	604.3	574.2	522.5	474.8	436.7	412.8	391.8
50.5°	418.0	457.7	498.3	528.5	560.2	533.2	483.6	436.3	399.7	383.8	364.4
51°	381.8	418.0	458.5	485.5	517.3	493.1	446.6	400.1	367.5	355.2	336.9
51.5°	346.1	380.3	419.6	445.0	477.2	455.0	411.2	369.5	335.7	326.2	309.9
52°	312.7	344.9	383.0	406.5	438.3	417.6	381.8	338.9	303.6	297.6	282.5
52.5°	280.9	310.7	347.3	368.7	400.5	385.8	352.0	307.9	271.8	269.0	257.1
53°	251.5	279.7	314.3	333.4	366.7	353.6	322.2	277.3	246.7	244.4	234.4
53.5°	223.7	251.1	282.1	300.4	333.0	321.8	292.4	251.5	224.1	222.1	212.2
54°	199.1	224.5	253.1	270.2	298.8	289.7	262.6	228.1	203.8	201.1	191.9
54.5°	176.4	199.5	224.5	241.6	265.4	257.9	238.4	206.6	185.6	180.8	171.3
55°	155.8	177.2	199.1	215.8	236.8	233.2	215.4	187.5	168.5	162.5	152.6
55.5°	135.9	155.4	174.8	191.5	211.0	207.8	193.5	168.5	151.8	144.2	134.3
56°	120.4	135.5	153.4	168.9	187.1	185.6	172.4	151.4	135.9	127.5	117.6
56.5°	104.5	119.6	134.7	147.4	165.3	164.1	152.6	135.1	120.8	111.7	101.7
57°	89.0	104.1	118.4	130.3	145.0	144.2	134.3	119.2	106.1	97.0	87.4
57.5°	73.5	88.2	101.7	113.6	125.6	125.2	116.8	104.1	92.6	83.4	73.9
58°	58.8	72.3	85.4	96.6	108.1	107.7	100.9	90.2	79.5	69.5	59.2
58.5°	44.5	56.8	69.1	79.9	92.2	91.8	86.2	76.7	65.6	59.2	50.5
59°	32.6	42.9	53.6	63.2	76.7	77.5	71.5	62.0	55.6	48.9	41.3
59.5°	23.8	31.4	39.3	47.3	64.8	66.8	60.4	52.4	45.7	38.1	32.6
60°	17.9	22.6	28.6	34.6	52.8	56.0	49.7	42.9	35.4	27.8	23.8
60.5°	13.1	17.1	20.7	24.6	40.9	45.3	38.5	33.4	25.4	17.5	14.7
61°	11.1	14.7	15.5	18.3	29.0	34.6	27.4	23.8	15.9	13.5	11.5
61.5°	9.1	12.3	13.1	13.5	17.1	23.8	16.7	14.3	11.9	10.7	9.1
62°	7.2	9.9	10.7	11.5	12.7	13.1	12.7	10.7	9.1	8.3	7.5
62.5°	5.2	7.5	8.3	9.5	9.9	9.9	9.5	8.7	7.2	6.8	6.0
63°	4.4	5.6	6.4	7.5	7.9	7.9	7.5	6.8	6.0	5.6	5.2
63.5°	3.6	4.4	5.2	5.6	6.4	6.4	6.0	5.6	4.8	4.8	4.4
64°	2.8	3.6	4.4	4.8	5.2	5.2	5.2	4.8	4.0	4.0	3.6
64.5°	2.4	3.2	3.6	4.0	4.4	4.4	4.0	4.0	3.2	3.2	3.2
65°	2.0	2.8	3.2	3.2	3.6	3.6	3.6	3.2	2.8	2.8	2.8
65.5°	2.0	2.4	2.4	2.8	3.2	2.8	2.8	2.8	2.4	2.4	2.4
66°	1.6	2.0	2.4	2.4	2.4	2.4	2.4	2.4	2.0	2.0	2.0



TEST NUMBER: P776392
 CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-4000lm-3500K

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	1.6	1.6	1.6	1.6	1.6	1.6	1.2	1.2	1.2
68°	0.8	1.2	1.2	1.2	1.6	1.2	1.6	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: P776392
CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-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: P776392

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3625.3	3625.3	3625.3	3625.3	3625.3	3625.3
0.5°	3624.1	3619.7	3622.1	3624.1	3625.3	3624.5
1°	3620.1	3615.0	3617.7	3620.9	3622.9	3623.7
1.5°	3615.0	3609.4	3613.0	3616.6	3620.9	3622.5
2°	3608.6	3602.6	3606.6	3611.8	3616.6	3620.5
2.5°	3601.9	3595.1	3599.1	3606.2	3612.6	3620.5
3°	3593.9	3586.4	3591.5	3599.1	3608.6	3614.6
3.5°	3585.2	3576.8	3582.4	3592.3	3603.0	3611.0
4°	3576.0	3566.9	3572.8	3584.4	3597.5	3606.6
4.5°	3565.7	3555.4	3562.5	3575.6	3590.3	3601.1
5°	3554.2	3543.0	3551.0	3565.7	3582.8	3595.5
5.5°	3541.9	3530.7	3538.7	3555.4	3574.0	3590.3
6°	3528.7	3517.2	3526.4	3544.6	3565.3	3581.2
6.5°	3514.8	3502.1	3512.5	3532.3	3555.4	3573.2
7°	3500.5	3487.8	3498.1	3519.6	3545.0	3564.1
7.5°	3485.0	3471.5	3483.1	3506.9	3533.5	3553.8
8°	3469.5	3454.4	3467.6	3492.6	3521.2	3542.7
8.5°	3452.9	3437.0	3450.9	3477.5	3507.3	3531.1
9°	3436.2	3419.5	3433.4	3462.0	3493.4	3518.4
9.5°	3417.5	3400.8	3415.9	3445.3	3478.3	3504.5
10°	3399.2	3382.1	3397.2	3428.6	3462.8	3490.2
10.5°	3379.7	3361.5	3378.6	3410.7	3446.5	3474.7
11°	3359.9	3340.8	3358.7	3391.7	3429.4	3458.8
11.5°	3339.6	3320.1	3338.0	3372.2	3411.5	3442.1
12°	3318.2	3297.9	3317.0	3352.3	3392.5	3423.5
12.5°	3296.7	3276.0	3295.5	3331.3	3373.0	3405.2
13°	3274.1	3253.0	3272.9	3310.2	3353.5	3386.5
13.5°	3251.0	3229.6	3249.4	3288.0	3332.5	3366.2
14°	3226.8	3205.7	3225.6	3266.1	3311.4	3346.4
14.5°	3202.1	3181.1	3201.3	3243.1	3289.2	3324.9
15°	3176.7	3155.6	3176.3	3219.2	3267.7	3303.1
15.5°	3152.1	3129.0	3150.5	3194.6	3243.5	3280.4
16°	3125.4	3103.2	3124.7	3170.3	3220.0	3257.4
16.5°	3098.8	3075.4	3097.6	3145.7	3196.2	3233.5
17°	3071.0	3048.4	3070.6	3119.9	3171.5	3209.3
17.5°	3044.0	3019.8	3042.8	3092.5	3144.9	3183.9
18°	3016.2	2990.8	3015.0	3065.5	3118.7	3158.8
18.5°	2987.2	2961.3	2986.8	3037.6	3092.1	3133.0
19°	2958.6	2932.7	2957.0	3009.0	3064.3	3106.4
19.5°	2929.6	2902.9	2928.4	2980.8	3036.4	3079.4
20°	2900.6	2871.9	2899.4	2951.0	3007.8	3052.3
20.5°	2871.9	2841.7	2869.6	2920.8	2978.0	3024.1
21°	2841.0	2811.2	2839.4	2890.6	2948.2	2995.9



TEST NUMBER: P776392

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2746.0	2718.2	2746.0	2794.9	2854.9	2908.9
23°	2713.4	2686.0	2713.4	2762.3	2822.7	2879.1
23.5°	2681.2	2654.2	2682.4	2729.7	2790.1	2848.9
24°	2647.8	2621.6	2649.0	2696.3	2756.7	2817.5
24.5°	2614.5	2589.0	2616.9	2662.2	2724.1	2785.7
25°	2581.1	2555.3	2583.1	2628.0	2690.8	2753.5
25.5°	2546.9	2521.9	2549.7	2593.8	2656.6	2721.4
26°	2513.6	2488.1	2514.3	2557.7	2622.8	2689.2
26.5°	2478.6	2453.2	2478.6	2523.1	2588.2	2655.0
27°	2442.8	2417.4	2442.4	2485.3	2553.3	2621.6
27.5°	2406.3	2381.6	2405.1	2448.4	2517.5	2586.7
28°	2368.9	2342.3	2365.7	2410.6	2481.0	2552.1
28.5°	2330.0	2303.4	2328.4	2372.5	2444.0	2516.7
29°	2291.0	2263.2	2288.3	2334.0	2406.7	2480.6
29.5°	2251.3	2222.7	2247.3	2293.8	2368.5	2443.6
30°	2210.0	2180.2	2205.6	2254.1	2330.4	2406.3
30.5°	2167.9	2134.9	2163.5	2213.2	2290.2	2368.1
31°	2125.0	2089.6	2119.0	2172.2	2250.1	2329.2
31.5°	2081.2	2043.5	2074.5	2131.7	2209.6	2289.1
32°	2037.1	1996.2	2028.0	2088.0	2168.7	2247.3
32.5°	1991.1	1949.3	1981.9	2046.3	2126.9	2206.4
33°	1944.2	1900.5	1934.6	2003.4	2083.2	2163.5
33.5°	1896.5	1852.4	1887.3	1960.1	2039.9	2119.4
34°	1848.4	1804.3	1840.5	1915.2	1995.0	2072.9
34.5°	1799.1	1755.8	1792.4	1867.9	1950.1	2025.6
35°	1750.7	1708.1	1743.5	1820.6	1902.4	1976.4
35.5°	1701.8	1660.1	1696.6	1772.1	1855.2	1927.1
36°	1651.7	1612.8	1648.9	1722.9	1803.9	1874.2
36.5°	1602.1	1564.7	1600.9	1672.4	1751.9	1821.4
37°	1551.6	1515.8	1552.0	1616.8	1698.2	1767.0
37.5°	1500.7	1465.8	1502.3	1564.7	1645.8	1712.9
38°	1449.5	1416.5	1451.1	1509.5	1588.6	1656.9
38.5°	1396.6	1362.5	1397.8	1456.2	1532.1	1603.6
39°	1345.4	1308.4	1344.6	1425.6	1473.7	1548.0
39.5°	1292.9	1254.0	1291.3	1363.7	1407.8	1494.4
40°	1240.1	1200.0	1237.7	1301.3	1352.9	1440.7
40.5°	1187.6	1147.9	1184.5	1239.3	1298.1	1387.5
41°	1135.6	1097.8	1128.8	1177.3	1243.7	1333.5
41.5°	1085.9	1048.2	1075.2	1122.5	1188.8	1280.2
42°	1033.5	1000.1	1022.7	1067.2	1133.6	1226.6
42.5°	983.0	951.2	972.3	1012.8	1079.6	1172.9
43°	933.3	903.1	922.2	958.8	1024.3	1118.5
43.5°	882.9	854.7	871.0	905.9	971.1	1065.3



TEST NUMBER: P776392

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	742.6	712.0	723.5	753.0	820.5	911.9
45.5°	697.7	667.5	675.1	705.3	774.0	863.4
46°	654.0	623.8	629.0	659.6	727.9	813.3
46.5°	613.5	579.7	583.7	615.5	684.2	764.1
47°	571.4	538.0	540.8	572.6	639.7	716.0
47.5°	532.8	497.1	499.8	532.0	598.4	669.1
48°	495.9	457.7	460.1	493.1	556.3	623.4
48.5°	460.1	419.2	423.2	456.1	516.1	579.7
49°	426.3	383.8	387.8	421.2	476.4	536.8
49.5°	394.2	349.7	354.4	387.4	439.5	495.5
50°	365.5	317.9	324.2	356.0	402.5	456.5
50.5°	337.3	289.3	295.2	325.8	368.3	418.0
51°	308.7	263.4	269.4	298.0	336.1	381.8
51.5°	280.5	240.0	245.2	271.0	305.6	346.1
52°	256.3	218.9	223.3	246.7	276.9	312.7
52.5°	232.8	199.9	202.6	223.7	249.9	280.9
53°	210.6	181.6	184.4	201.4	224.1	251.5
53.5°	190.7	164.9	166.5	180.4	200.3	223.7
54°	171.6	149.0	149.8	161.3	178.4	199.1
54.5°	153.4	134.7	135.5	143.0	158.1	176.4
55°	136.7	120.8	121.2	127.9	137.9	155.8
55.5°	120.0	106.9	107.3	112.8	122.4	135.9
56°	104.9	93.0	93.0	97.7	106.9	120.4
56.5°	91.0	79.1	78.7	83.0	91.4	104.5
57°	77.9	64.8	64.4	67.9	75.9	89.0
57.5°	63.6	50.5	50.5	53.2	61.2	73.5
58°	54.0	38.5	38.1	40.5	46.9	58.8
58.5°	44.5	29.0	28.2	29.8	35.0	44.5
59°	35.0	21.5	21.1	22.3	25.8	32.6
59.5°	25.4	16.3	15.9	16.7	19.1	23.8
60°	15.9	13.9	13.5	14.3	14.3	17.9
60.5°	12.3	11.1	11.1	11.9	12.3	13.1
61°	9.9	8.7	8.3	9.9	9.9	11.1
61.5°	7.9	6.4	6.0	7.5	7.9	9.1
62°	6.4	5.2	5.2	5.2	6.0	7.2
62.5°	5.2	4.4	4.0	4.4	4.8	5.2
63°	4.4	3.6	3.6	3.6	4.0	4.4
63.5°	3.6	3.2	2.8	2.8	3.2	3.6
64°	3.2	2.8	2.4	2.4	2.8	2.8
64.5°	2.8	2.4	2.0	2.0	2.4	2.4
65°	2.4	2.0	1.6	2.0	2.0	2.0
65.5°	2.0	1.6	1.6	1.6	1.6	2.0
66°	1.6	1.6	1.2	1.2	1.6	1.6



TEST NUMBER: P776392

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-4000lm-3500K

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: P776392

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-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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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°	2966.9	3014.6	3053.5	3062.7	3053.9	3033.3	2990.0	2932.3	2887.0	2855.3	2830.2
22°	2938.3	2986.0	3024.9	3034.5	3026.9	3005.8	2961.0	2903.7	2855.7	2823.5	2797.6



44°	1012.4	1089.9	1156.6	1184.9	1208.7	1165.0	1113.7	1049.8	972.7	909.9	854.3
44.5°	961.6	1037.4	1099.8	1130.4	1153.9	1110.6	1060.1	997.3	926.2	862.6	809.0



66.5°	1.2	1.6	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.6
67°	1.2	1.6	1.6	1.6	2.0	2.0	2.0	1.6	1.6	1.6	1.6



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°	2809.2	2780.6	2808.4	2858.8	2917.2	2966.9
22°	2777.8	2749.2	2777.4	2827.4	2886.3	2938.3



44°	835.2	805.8	820.9	853.9	920.2	1012.4
44.5°	789.1	758.1	772.4	803.0	870.2	961.6

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66.5°	1.6	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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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)