

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: P776488

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

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776488  
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-4000K  
Description: 8 INCH ROUND MEDIUM SPECULAR CLEAR TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

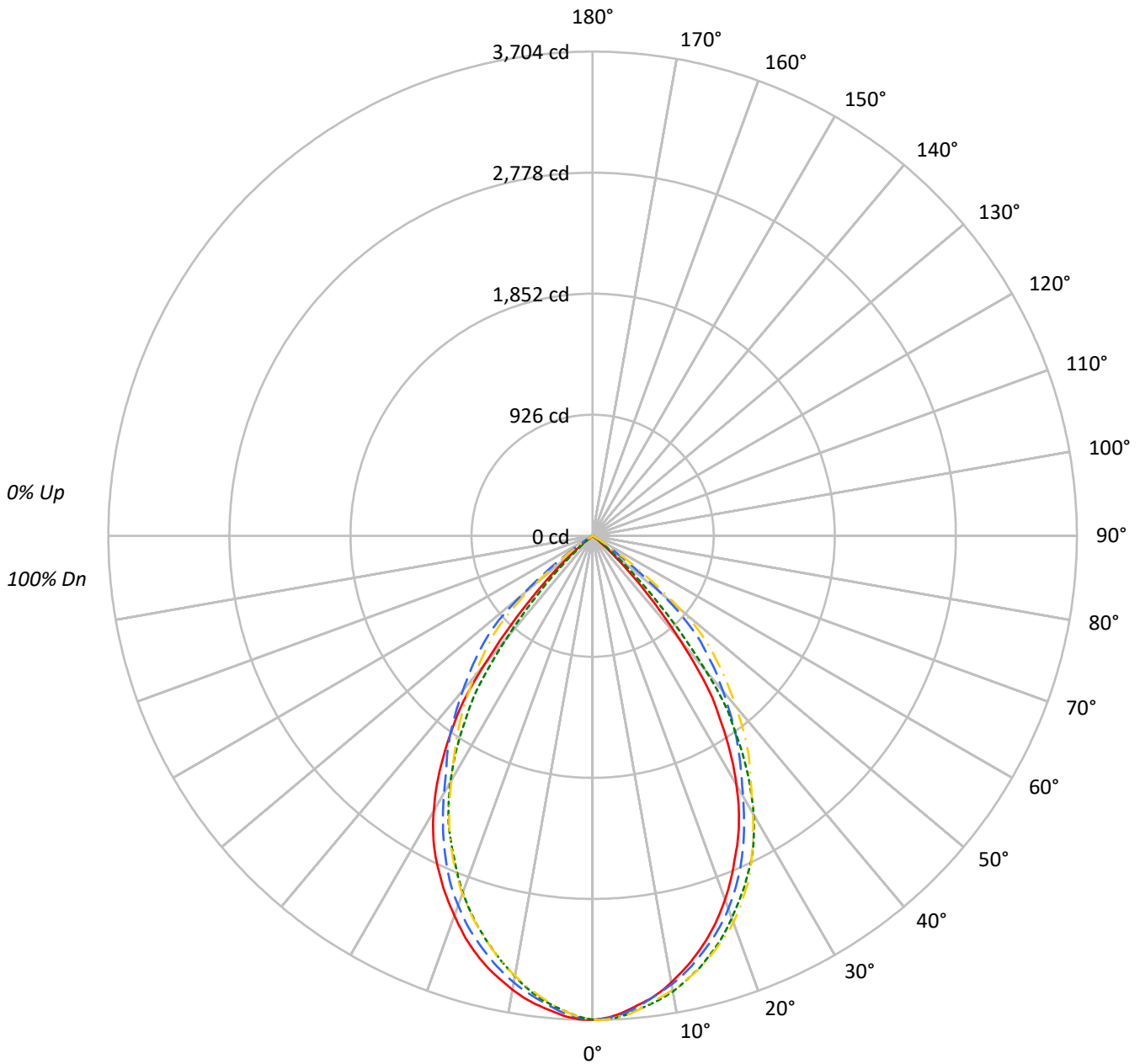
Lumens per Lamp: N/A  
Luminaire Lumens: 4393.5 lumens  
Efficiency: N/A  
Efficacy: 114.1 lumens/watt  
Spacing Criteria (0/90/45): 1 / 1 / 1.05  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

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

### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100			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°	112986	112986	112986	112986
5°	110948	111898	111788	110402
10°	107519	109692	109317	106093
15°	102651	106115	105682	100688
20°	96215	101088	100435	94343
25°	88093	95184	94329	86547
30°	77582	86765	85697	76729
35°	62894	73412	72197	62428
40°	41309	53536	51364	40731
45°	18138	27503	25794	17737
50°	3961	7984	7125	3828
55°	516	772	708	495
60°	421	617	568	397
65°	347	527	470	318
70°	286	428	393	250
75°	236	377	330	236
80°	211	352	281	211
85°	140	280	280	140

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 135°

Vertical Angle: 45°

Luminance: 57632 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	341.6	7.8
10°-20°	919.4	20.9
20°-30°	1236.8	28.1
30°-40°	1168.6	26.6
40°-50°	627.1	14.3
50°-60°	90.8	2.1
60°-70°	5.9	0.1
70°-80°	2.7	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°	2497.8	56.9
0°-40°	3666.4	83.4
0°-60°	4384.3	99.8
0°-90°	4393.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4393.5	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	3701	3701	3701	3701	3701	
5°	3620	3651	3648	3602	3620	341
15°	3248	3357	3344	3186	3248	910
25°	2615	2826	2800	2569	2615	1194
35°	1688	1970	1937	1675	1688	1033
45°	420	637	597	411	420	349
55°	10	14	13	9	10	16
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°	3700.8	3700.8	3700.8	3700.8	3700.8	3700.8	3700.8	3700.8	3700.8	3700.8	3700.8
0.5°	3700.4	3700.8	3700.4	3701.2	3702.0	3702.8	3703.2	3704.4	3703.6	3701.6	3698.4
1°	3696.8	3698.0	3698.4	3700.8	3702.8	3703.6	3704.4	3704.4	3702.8	3699.2	3694.3
1.5°	3691.1	3693.9	3694.8	3698.0	3701.2	3702.8	3703.2	3703.2	3700.0	3695.6	3689.9
2°	3684.7	3688.7	3689.9	3693.9	3698.8	3700.0	3700.4	3700.4	3696.4	3690.3	3683.5
2.5°	3677.0	3681.9	3683.5	3688.7	3694.8	3696.0	3696.8	3696.4	3691.1	3683.5	3675.8
3°	3667.3	3673.0	3675.8	3681.4	3688.7	3690.7	3691.1	3690.3	3685.1	3676.2	3666.5
3.5°	3656.9	3662.9	3666.5	3673.0	3681.4	3683.9	3684.3	3683.1	3677.0	3666.9	3656.0
4°	3644.0	3651.2	3656.5	3663.7	3672.6	3675.4	3676.2	3675.0	3667.7	3656.5	3644.0
4.5°	3632.7	3639.9	3644.8	3651.6	3662.1	3665.7	3666.9	3664.9	3657.7	3645.2	3631.1
5°	3620.2	3629.0	3631.5	3639.5	3651.2	3654.4	3656.0	3654.4	3647.6	3633.1	3617.3
5.5°	3607.7	3616.1	3617.8	3625.8	3640.3	3643.1	3643.6	3643.1	3638.3	3621.0	3604.0
6°	3594.8	3602.8	3603.6	3613.7	3630.7	3632.3	3630.7	3633.5	3627.8	3609.3	3590.3
6.5°	3583.5	3590.3	3588.7	3600.8	3621.0	3621.8	3617.8	3622.2	3618.2	3596.8	3576.2
7°	3571.0	3578.2	3573.4	3587.9	3610.9	3610.9	3603.6	3611.3	3608.1	3584.7	3562.9
7.5°	3556.1	3564.5	3558.1	3575.8	3601.6	3600.4	3590.3	3599.2	3596.0	3571.4	3548.8
8°	3541.2	3550.0	3543.6	3563.3	3590.7	3589.5	3578.2	3586.3	3583.9	3557.7	3533.9
8.5°	3525.4	3534.3	3528.7	3550.0	3579.1	3578.2	3564.9	3572.6	3571.0	3542.8	3519.0
9°	3506.9	3517.4	3514.1	3534.7	3565.3	3564.9	3553.2	3558.9	3556.5	3528.3	3504.1
9.5°	3487.9	3499.2	3499.2	3519.8	3552.4	3551.6	3540.8	3543.2	3542.0	3513.3	3487.9
10°	3468.2	3480.3	3484.3	3504.1	3538.3	3537.9	3527.4	3527.0	3526.2	3497.2	3471.0
10.5°	3447.6	3460.1	3468.2	3488.3	3523.0	3523.4	3514.5	3510.5	3509.7	3481.1	3452.9
11°	3427.1	3438.0	3451.7	3470.6	3507.3	3507.3	3500.0	3493.6	3492.0	3462.9	3434.3
11.5°	3407.3	3416.2	3433.9	3452.9	3489.2	3490.8	3484.7	3475.0	3475.0	3444.8	3415.0
12°	3386.8	3394.8	3414.6	3433.5	3470.6	3472.6	3469.4	3456.5	3458.5	3426.3	3395.2
12.5°	3365.8	3373.5	3394.4	3414.2	3452.9	3453.3	3453.7	3438.0	3441.6	3408.9	3374.7
13°	3344.0	3351.3	3375.1	3394.0	3435.5	3433.9	3438.0	3421.0	3425.1	3391.2	3354.9
13.5°	3320.2	3329.5	3352.9	3375.1	3418.6	3416.2	3421.0	3403.7	3405.7	3374.3	3332.7
14°	3296.5	3306.5	3331.9	3356.1	3400.1	3398.4	3403.7	3387.2	3385.1	3356.1	3310.2
14.5°	3271.9	3282.3	3309.4	3337.2	3378.7	3379.9	3384.7	3368.6	3365.0	3336.0	3287.6
15°	3247.7	3257.3	3287.6	3317.0	3357.3	3360.5	3365.0	3348.9	3343.6	3314.6	3264.2
15.5°	3222.3	3233.2	3264.2	3294.8	3335.2	3339.2	3344.0	3328.3	3322.3	3292.8	3241.6
16°	3196.5	3207.8	3243.2	3272.3	3313.8	3317.8	3323.1	3308.9	3299.7	3270.2	3218.6
16.5°	3169.5	3182.8	3219.9	3249.3	3292.0	3295.2	3302.5	3287.2	3276.7	3247.7	3196.1
17°	3141.6	3156.6	3195.3	3225.5	3268.6	3273.9	3281.9	3265.8	3253.3	3223.5	3171.1
17.5°	3113.4	3131.2	3169.5	3201.3	3245.3	3250.9	3261.8	3243.6	3227.9	3198.9	3147.3
18°	3084.0	3103.8	3146.1	3176.7	3219.9	3227.9	3242.4	3221.1	3200.9	3172.7	3120.3
18.5°	3053.8	3075.5	3119.5	3151.7	3194.1	3203.3	3220.3	3197.3	3173.9	3145.7	3092.9
19°	3023.5	3047.3	3092.5	3125.1	3167.4	3177.9	3197.3	3171.9	3147.3	3117.9	3065.1
19.5°	2992.9	3018.7	3064.6	3096.9	3139.2	3152.1	3172.3	3145.7	3118.7	3090.0	3036.4
20°	2961.4	2988.5	3036.4	3068.7	3111.4	3125.1	3146.9	3119.1	3091.3	3061.4	3007.4
20.5°	2929.6	2958.2	3006.2	3039.2	3084.0	3097.7	3119.5	3091.7	3063.8	3031.6	2978.4
21°	2895.7	2927.6	2975.2	3009.4	3056.2	3069.5	3092.9	3064.2	3036.0	3001.8	2949.4



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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°	2791.7	2829.6	2881.2	2916.7	2972.7	2986.4	3005.0	2980.4	2952.6	2912.7	2855.0
23°	2754.2	2794.1	2847.0	2884.8	2944.5	2958.6	2974.7	2952.2	2924.8	2880.8	2820.7
23.5°	2717.9	2759.5	2813.5	2854.6	2916.7	2930.8	2944.5	2924.0	2891.7	2849.0	2785.7
24°	2682.5	2722.0	2778.0	2823.2	2885.3	2899.8	2914.3	2892.1	2860.3	2816.7	2749.4
24.5°	2648.6	2686.5	2741.3	2792.1	2855.0	2869.9	2879.6	2860.3	2829.6	2784.1	2712.7
25°	2615.1	2651.8	2704.6	2759.9	2825.6	2838.5	2844.1	2828.0	2800.2	2751.0	2674.4
25.5°	2579.3	2618.0	2666.8	2727.2	2797.4	2806.2	2807.0	2794.1	2770.4	2719.6	2636.5
26°	2542.2	2586.5	2628.5	2694.6	2766.3	2775.2	2770.0	2761.5	2738.9	2689.3	2597.8
26.5°	2504.3	2553.9	2589.8	2662.3	2732.5	2745.4	2730.0	2729.6	2705.0	2659.1	2558.7
27°	2464.4	2519.6	2549.0	2631.7	2697.8	2717.1	2689.7	2699.8	2669.6	2628.5	2519.6
27.5°	2423.7	2483.7	2508.7	2601.4	2661.9	2686.9	2650.6	2669.6	2633.3	2596.2	2479.7
28°	2380.5	2445.4	2466.4	2568.8	2624.4	2655.1	2611.5	2638.1	2595.4	2561.9	2439.4
28.5°	2337.8	2407.9	2425.3	2535.3	2585.7	2622.0	2572.0	2603.5	2556.7	2526.9	2399.1
29°	2292.6	2369.2	2383.3	2498.6	2545.0	2586.9	2534.1	2570.0	2516.0	2490.2	2357.9
29.5°	2247.5	2329.3	2341.4	2462.0	2503.5	2551.1	2493.0	2532.9	2473.2	2451.9	2314.8
30°	2200.7	2287.4	2300.7	2423.7	2461.2	2513.6	2453.9	2495.0	2430.9	2412.4	2271.3
30.5°	2153.2	2243.5	2260.4	2383.7	2416.8	2474.1	2412.8	2455.9	2386.2	2370.4	2229.8
31°	2101.6	2199.5	2220.5	2342.6	2372.1	2433.7	2372.1	2416.0	2342.2	2328.5	2189.8
31.5°	2055.6	2156.0	2183.4	2300.3	2325.3	2391.8	2330.5	2373.3	2295.5	2285.0	2151.5
32°	2004.4	2111.2	2146.3	2257.6	2278.5	2349.1	2291.8	2331.3	2249.1	2241.4	2116.1
32.5°	1954.4	2064.9	2109.6	2214.8	2230.6	2305.5	2253.9	2287.4	2198.7	2197.1	2081.4
33°	1900.8	2018.9	2072.9	2171.7	2181.8	2261.2	2218.9	2243.1	2149.5	2152.3	2049.1
33.5°	1850.8	1971.7	2035.8	2127.4	2131.0	2216.0	2185.0	2197.5	2097.1	2104.8	2016.1
34°	1796.0	1923.8	2000.4	2082.2	2078.6	2171.3	2152.3	2151.1	2044.3	2058.4	1983.0
34.5°	1742.8	1874.6	1964.9	2035.8	2023.7	2123.3	2119.3	2104.8	1989.9	2008.8	1948.0
35°	1687.5	1824.6	1929.0	1990.7	1969.7	2074.5	2086.6	2057.2	1937.1	1960.1	1914.1
35.5°	1637.1	1774.2	1892.7	1943.5	1916.1	2025.4	2052.0	2009.6	1881.8	1910.1	1877.4
36°	1585.5	1723.8	1854.0	1895.1	1861.7	1976.2	2016.1	1960.1	1828.2	1859.7	1841.5
36.5°	1536.0	1672.2	1815.7	1846.4	1808.5	1923.8	1979.4	1909.7	1776.6	1808.1	1804.0
37°	1471.4	1622.6	1777.0	1796.4	1756.9	1871.4	1941.5	1859.3	1724.6	1757.7	1766.5
37.5°	1399.3	1573.8	1738.7	1746.8	1707.7	1819.0	1902.0	1808.9	1663.7	1706.1	1728.2
38°	1327.1	1525.9	1699.2	1696.8	1645.2	1767.4	1862.5	1758.9	1600.1	1656.5	1691.2
38.5°	1255.4	1477.1	1660.1	1648.0	1577.5	1717.4	1823.4	1708.5	1527.5	1607.7	1654.1
39°	1183.2	1411.0	1623.0	1602.5	1505.3	1669.0	1784.3	1661.7	1451.3	1559.7	1617.4
39.5°	1111.0	1344.1	1585.1	1555.3	1423.9	1623.4	1744.0	1614.2	1369.1	1504.5	1579.9
40°	1036.5	1277.1	1548.9	1511.4	1343.3	1565.8	1704.9	1565.4	1288.8	1442.8	1543.6
40.5°	962.3	1210.2	1511.0	1459.4	1263.4	1503.7	1666.6	1513.8	1211.0	1376.3	1507.7
41°	894.2	1143.3	1475.1	1394.0	1186.8	1436.8	1628.3	1453.3	1136.0	1306.2	1472.3
41.5°	826.0	1072.3	1455.3	1328.3	1113.5	1363.0	1591.2	1389.2	1063.9	1233.6	1438.0
42°	763.5	1004.2	1416.2	1262.6	1039.7	1288.0	1552.9	1320.7	990.1	1162.2	1402.9
42.5°	702.7	936.1	1376.7	1197.3	971.2	1214.2	1517.0	1250.9	920.8	1094.9	1369.5
43°	643.8	868.0	1337.6	1131.6	897.0	1143.7	1481.1	1182.0	849.4	1028.4	1336.0
43.5°	582.9	803.0	1298.1	1065.1	828.8	1075.6	1444.4	1114.3	781.3	965.1	1301.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	420.1	627.3	1194.5	879.6	637.0	874.8	1334.8	923.2	597.4	773.6	1198.1
45.5°	370.5	570.0	1160.2	817.6	580.5	809.1	1297.7	859.1	541.4	714.0	1164.7
46°	324.9	515.6	1122.7	759.5	522.1	746.2	1261.4	795.8	487.0	654.3	1130.8
46.5°	279.8	462.4	1078.4	699.4	470.1	686.5	1225.9	734.9	435.4	601.9	1091.7
47°	238.3	412.8	1027.2	643.4	423.3	628.5	1192.9	675.7	390.2	546.3	1053.8
47.5°	199.6	364.8	974.8	587.8	376.9	571.2	1150.6	619.2	345.1	495.5	1009.5
48°	167.3	319.3	922.8	537.0	330.6	516.8	1108.6	564.0	299.5	443.9	965.9
48.5°	139.1	276.1	872.8	484.6	283.8	464.4	1060.7	511.2	254.8	399.1	907.5
49°	120.1	235.8	814.7	435.8	237.9	418.1	1003.0	459.2	216.9	354.0	845.0
49.5°	102.0	198.3	755.9	387.4	201.2	372.5	943.3	414.4	182.6	309.2	778.1
50°	83.4	164.5	691.8	341.9	168.1	326.5	878.0	369.3	150.0	264.5	712.7
50.5°	65.3	134.6	627.3	297.1	137.9	281.0	813.5	324.5	121.3	226.6	650.7
51°	50.8	116.5	564.4	257.6	110.9	235.0	748.2	279.8	95.9	191.9	590.6
51.5°	36.7	98.4	505.5	219.7	88.3	199.1	684.9	235.0	79.8	160.4	532.5
52°	23.0	79.8	449.9	185.0	73.8	166.1	620.8	198.3	63.3	129.8	475.3
52.5°	14.1	61.7	397.5	153.6	59.3	135.1	561.6	164.5	47.2	102.8	427.7
53°	12.5	47.6	347.1	130.6	44.3	108.4	502.3	134.2	30.6	79.4	379.8
53.5°	11.7	34.3	299.9	108.0	29.8	85.9	446.7	106.4	14.9	65.7	332.2
54°	10.9	21.0	256.8	85.1	15.7	71.0	397.9	82.2	14.1	52.0	284.2
54.5°	10.1	11.7	217.7	62.1	14.9	56.4	349.1	68.1	13.7	38.3	236.6
55°	9.7	10.9	182.2	39.5	14.5	41.9	300.7	54.0	13.3	24.6	200.4
55.5°	9.3	10.1	150.8	23.0	13.7	27.4	252.0	39.5	12.9	11.3	167.3
56°	8.9	9.7	129.4	12.5	13.3	12.9	212.1	25.4	12.5	10.9	137.1
56.5°	8.9	8.9	108.4	11.7	12.9	12.1	175.4	11.7	12.1	10.5	110.9
57°	8.5	8.5	87.1	11.3	12.5	11.7	142.7	11.3	11.7	10.1	87.9
57.5°	8.1	8.5	66.1	10.9	12.1	11.3	113.7	10.9	11.3	10.1	69.3
58°	7.7	8.1	45.2	10.5	11.7	10.9	88.7	10.9	10.9	9.7	58.5
58.5°	7.7	7.7	34.7	10.1	11.3	10.5	68.1	10.5	10.5	9.3	48.0
59°	7.3	7.7	26.6	9.7	10.9	10.5	57.2	10.1	10.1	8.9	37.1
59.5°	7.3	7.3	20.6	9.3	10.5	10.1	46.8	9.7	9.7	8.9	26.6
60°	6.9	7.3	15.7	9.3	10.1	9.7	36.7	9.3	9.3	8.5	16.1
60.5°	6.5	6.9	13.3	8.9	9.7	9.3	26.2	9.3	9.3	8.1	12.1
61°	6.5	6.9	11.3	8.5	9.7	8.9	15.7	8.9	8.9	8.1	8.9
61.5°	6.0	6.5	9.3	8.5	9.3	8.9	11.7	8.5	8.5	7.7	7.3
62°	6.0	6.5	6.9	8.1	8.9	8.5	9.3	8.5	8.1	7.3	6.5
62.5°	5.6	6.0	6.9	7.7	8.5	8.1	7.7	8.1	8.1	7.3	6.5
63°	5.6	6.0	6.5	7.7	8.5	8.1	7.3	7.7	7.7	6.9	6.0
63.5°	5.2	5.6	6.5	7.3	8.1	7.7	7.3	7.7	7.3	6.9	6.0
64°	5.2	5.6	6.0	7.3	7.7	7.7	6.9	7.3	7.3	6.5	5.6
64.5°	4.8	5.2	6.0	6.9	7.7	7.3	6.9	6.9	6.9	6.5	5.6
65°	4.8	5.2	5.6	6.5	7.3	6.9	6.5	6.9	6.5	6.0	5.2
65.5°	4.4	5.2	5.6	6.5	6.9	6.9	6.5	6.5	6.5	6.0	5.2
66°	4.4	4.8	5.2	6.0	6.9	6.5	6.0	6.5	6.0	5.6	4.8





TEST NUMBER: P776488

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

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	4.0	4.4	4.8	5.6	6.0	6.0	5.6	5.6	5.2	5.2	4.4
68°	3.6	4.0	4.8	5.2	5.6	5.6	5.2	5.2	5.2	4.8	4.4
68.5°	3.6	4.0	4.4	5.2	5.6	5.6	5.2	5.2	4.8	4.8	4.0
69°	3.6	3.6	4.4	4.8	5.2	5.2	4.8	4.8	4.8	4.4	4.0
69.5°	3.2	3.6	4.0	4.8	5.2	5.2	4.8	4.8	4.4	4.4	4.0
70°	3.2	3.6	4.0	4.4	4.8	4.8	4.4	4.4	4.4	4.0	3.6
70.5°	3.2	3.2	3.6	4.4	4.8	4.8	4.4	4.4	4.4	4.0	3.6
71°	2.8	3.2	3.6	4.0	4.8	4.4	4.0	4.0	4.0	4.0	3.2
71.5°	2.8	3.2	3.6	4.0	4.4	4.4	4.0	4.0	4.0	3.6	3.2
72°	2.8	2.8	3.2	4.0	4.4	4.0	3.6	4.0	3.6	3.6	3.2
72.5°	2.8	2.8	3.2	3.6	4.0	4.0	3.6	3.6	3.6	3.2	2.8
73°	2.4	2.8	2.8	3.6	4.0	4.0	3.2	3.6	3.6	3.2	2.8
73.5°	2.4	2.8	2.8	3.2	3.6	3.6	3.2	3.2	3.2	3.2	2.4
74°	2.4	2.4	2.8	3.2	3.6	3.6	3.2	3.2	3.2	2.8	2.4
74.5°	2.4	2.4	2.4	3.2	3.6	3.6	2.8	3.2	3.2	2.8	2.4
75°	2.0	2.4	2.4	2.8	3.2	3.2	2.8	2.8	2.8	2.8	2.0
75.5°	2.0	2.0	2.4	2.8	3.2	3.2	2.4	2.8	2.8	2.4	2.0
76°	2.0	2.0	2.0	2.8	3.2	2.8	2.4	2.8	2.8	2.4	2.0
76.5°	2.0	2.0	2.0	2.4	2.8	2.8	2.4	2.4	2.4	2.4	2.0
77°	1.6	2.0	2.0	2.4	2.8	2.8	2.0	2.4	2.4	2.0	1.6
77.5°	1.6	1.6	1.6	2.4	2.8	2.4	2.0	2.4	2.4	2.0	1.6
78°	1.6	1.6	1.6	2.0	2.4	2.4	2.0	2.0	2.0	2.0	1.6
78.5°	1.6	1.6	1.6	2.0	2.4	2.4	1.6	2.0	2.0	2.0	1.6
79°	1.6	1.6	1.6	2.0	2.4	2.0	1.6	2.0	2.0	1.6	1.2
79.5°	1.2	1.2	1.2	2.0	2.0	2.0	1.6	1.6	2.0	1.6	1.2
80°	1.2	1.2	1.2	1.6	2.0	2.0	1.6	1.6	1.6	1.6	1.2
80.5°	1.2	1.2	1.2	1.6	2.0	1.6	1.2	1.6	1.6	1.2	1.2
81°	1.2	1.2	1.2	1.6	1.6	1.6	1.2	1.2	1.6	1.2	0.8
81.5°	0.8	1.2	0.8	1.2	1.6	1.6	1.2	1.2	1.6	1.2	0.8
82°	0.8	0.8	0.8	1.2	1.6	1.6	1.2	1.2	1.2	1.2	0.8
82.5°	0.8	0.8	0.8	1.2	1.6	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: P776488  
CATALOG NUMBER: HCDJBL3040CSD-HCD8TRC-4000lm-4000K

**CANDELA DISTRIBUTION (continued):**

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



TEST NUMBER: P776488

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

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3700.8	3700.8	3700.8	3700.8	3700.8	3700.8
0.5°	3697.6	3695.2	3696.0	3696.8	3698.8	3700.4
1°	3693.1	3689.9	3689.1	3691.1	3694.3	3696.8
1.5°	3686.7	3681.9	3681.4	3683.5	3687.9	3691.1
2°	3679.0	3673.0	3671.4	3674.2	3679.4	3684.7
2.5°	3670.2	3662.1	3660.5	3663.7	3670.2	3677.0
3°	3659.3	3650.4	3649.2	3652.0	3659.7	3667.3
3.5°	3647.6	3638.7	3635.5	3639.5	3647.2	3656.9
4°	3635.9	3627.0	3623.8	3624.6	3633.9	3644.0
4.5°	3624.6	3615.3	3610.5	3609.7	3619.4	3632.7
5°	3612.5	3602.4	3596.8	3595.2	3605.3	3620.2
5.5°	3599.6	3588.3	3581.9	3579.1	3590.3	3607.7
6°	3585.5	3575.0	3567.0	3562.5	3574.2	3594.8
6.5°	3571.4	3559.3	3551.6	3546.4	3558.9	3583.5
7°	3556.9	3543.6	3533.9	3529.5	3544.4	3571.0
7.5°	3540.3	3525.0	3515.8	3511.7	3528.3	3556.1
8°	3522.6	3506.5	3496.8	3494.8	3511.7	3541.2
8.5°	3503.3	3486.3	3475.8	3475.4	3494.4	3525.4
9°	3483.5	3465.4	3454.9	3456.9	3476.3	3506.9
9.5°	3462.5	3444.4	3432.3	3438.0	3457.3	3487.9
10°	3441.2	3422.2	3410.5	3418.2	3437.1	3468.2
10.5°	3419.8	3399.7	3386.8	3398.0	3416.2	3447.6
11°	3397.2	3377.5	3363.0	3377.1	3394.8	3427.1
11.5°	3374.7	3355.7	3339.2	3355.3	3373.5	3407.3
12°	3352.5	3333.1	3317.0	3332.7	3351.3	3386.8
12.5°	3331.1	3308.9	3293.6	3309.8	3329.9	3365.8
13°	3309.4	3284.8	3271.1	3286.4	3308.1	3344.0
13.5°	3285.6	3260.2	3245.3	3262.2	3286.8	3320.2
14°	3263.0	3235.2	3219.9	3236.8	3264.6	3296.5
14.5°	3238.4	3210.6	3194.1	3212.2	3241.2	3271.9
15°	3214.6	3185.6	3169.5	3187.6	3216.6	3247.7
15.5°	3189.6	3159.8	3143.3	3162.6	3191.2	3222.3
16°	3165.4	3133.2	3117.5	3137.2	3165.8	3196.5
16.5°	3140.4	3107.4	3090.9	3111.0	3140.0	3169.5
17°	3115.0	3080.0	3064.6	3085.6	3113.4	3141.6
17.5°	3088.8	3051.7	3037.6	3058.2	3086.4	3113.4
18°	3062.6	3022.7	3009.4	3030.8	3058.2	3084.0
18.5°	3034.4	2994.5	2981.6	3003.0	3029.2	3053.8
19°	3006.2	2964.7	2952.2	2973.1	2999.7	3023.5
19.5°	2978.0	2934.4	2922.7	2944.1	2969.1	2992.9
20°	2949.8	2903.8	2892.1	2913.9	2936.9	2961.4
20.5°	2921.1	2871.5	2862.3	2882.8	2905.0	2929.6
21°	2890.5	2838.9	2831.6	2851.0	2872.4	2895.7



TEST NUMBER: P776488

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

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2792.5	2735.3	2733.3	2753.4	2771.2	2791.7
23°	2759.1	2699.4	2699.4	2718.4	2735.7	2754.2
23.5°	2723.2	2667.2	2663.1	2684.5	2700.2	2717.9
24°	2687.3	2634.5	2627.2	2647.4	2663.9	2682.5
24.5°	2649.8	2601.8	2593.8	2611.1	2625.6	2648.6
25°	2614.7	2569.2	2560.7	2573.2	2586.5	2615.1
25.5°	2580.5	2536.1	2530.1	2536.5	2550.2	2579.3
26°	2548.6	2501.9	2497.4	2496.6	2514.4	2542.2
26.5°	2517.6	2466.0	2465.2	2457.1	2480.9	2504.3
27°	2486.5	2428.5	2432.9	2416.4	2446.6	2464.4
27.5°	2453.9	2389.0	2398.7	2374.5	2410.8	2423.7
28°	2420.4	2347.9	2364.0	2331.7	2374.5	2380.5
28.5°	2385.0	2306.7	2327.3	2289.8	2337.0	2337.8
29°	2348.7	2264.8	2289.4	2246.7	2297.9	2292.6
29.5°	2310.4	2220.5	2250.7	2204.4	2257.2	2247.5
30°	2272.1	2176.5	2210.0	2161.6	2215.6	2200.7
30.5°	2231.8	2130.6	2168.5	2121.3	2173.3	2153.2
31°	2191.9	2083.4	2125.3	2081.0	2129.8	2101.6
31.5°	2149.1	2035.4	2082.2	2041.9	2085.4	2055.6
32°	2108.0	1987.5	2038.3	2002.4	2040.3	2004.4
32.5°	2064.9	1936.7	1994.3	1965.7	1994.7	1954.4
33°	2020.9	1886.3	1948.0	1929.0	1949.2	1900.8
33.5°	1977.0	1834.3	1900.0	1893.9	1903.2	1850.8
34°	1932.2	1781.1	1852.8	1858.9	1857.3	1796.0
34.5°	1885.1	1727.8	1802.0	1822.2	1808.9	1742.8
35°	1839.1	1675.0	1752.0	1785.1	1761.3	1687.5
35.5°	1792.3	1625.0	1701.6	1748.0	1713.7	1637.1
36°	1745.2	1576.7	1651.2	1708.9	1665.4	1585.5
36.5°	1696.4	1527.1	1600.1	1670.6	1617.4	1536.0
37°	1648.0	1464.2	1551.3	1633.1	1568.6	1471.4
37.5°	1600.1	1390.4	1502.9	1595.2	1520.2	1399.3
38°	1552.9	1316.6	1460.6	1557.3	1472.3	1327.1
38.5°	1508.5	1243.3	1394.9	1519.0	1420.7	1255.4
39°	1467.4	1169.5	1328.7	1483.1	1369.1	1183.2
39.5°	1422.7	1095.7	1262.6	1441.6	1317.0	1111.0
40°	1365.8	1022.0	1196.9	1408.6	1265.4	1036.5
40.5°	1300.5	949.0	1131.2	1375.1	1213.4	962.3
41°	1234.4	879.2	1065.1	1341.6	1151.8	894.2
41.5°	1168.7	811.5	997.4	1308.2	1090.5	826.0
42°	1105.0	749.4	929.6	1274.3	1030.0	763.5
42.5°	1040.5	690.2	862.7	1240.0	966.7	702.7
43°	975.2	630.5	799.0	1206.6	903.8	643.8
43.5°	908.7	571.2	738.5	1172.3	841.8	582.9



TEST NUMBER: P776488

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

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	725.2	410.8	570.8	1075.2	671.2	420.1
45.5°	668.8	363.2	516.8	1036.9	618.0	370.5
46°	612.8	317.3	466.4	994.9	565.6	324.9
46.5°	558.3	273.3	416.8	942.1	511.6	279.8
47°	505.5	231.8	370.5	891.3	462.4	238.3
47.5°	453.9	195.1	324.1	842.6	413.2	199.6
48°	409.2	163.3	281.0	791.8	367.3	167.3
48.5°	364.4	136.3	240.7	737.3	321.7	139.1
49°	320.1	117.3	203.6	674.4	280.6	120.1
49.5°	275.3	98.8	170.5	612.0	239.1	102.0
50°	230.6	80.6	141.1	555.1	202.0	83.4
50.5°	193.9	62.5	122.6	499.9	168.1	65.3
51°	161.3	48.0	104.4	449.1	139.5	50.8
51.5°	133.0	33.9	85.9	399.9	121.3	36.7
52°	109.7	20.6	67.7	353.6	103.2	23.0
52.5°	89.9	12.1	49.2	310.0	85.1	14.1
53°	73.4	11.3	35.1	269.3	66.9	12.5
53.5°	60.9	10.9	21.8	230.6	49.2	11.7
54°	48.4	10.1	12.1	196.7	35.1	10.9
54.5°	35.5	9.7	11.3	165.7	22.2	10.1
55°	23.0	9.3	10.1	137.5	12.5	9.7
55.5°	10.5	8.9	9.3	116.9	11.3	9.3
56°	8.5	8.5	8.5	96.3	10.1	8.9
56.5°	8.5	8.5	8.1	75.8	8.9	8.9
57°	8.1	8.1	7.7	55.2	8.1	8.5
57.5°	7.7	7.7	7.7	41.9	7.7	8.1
58°	7.7	7.7	7.3	31.8	7.3	7.7
58.5°	7.3	7.3	7.3	23.4	7.3	7.7
59°	7.3	6.9	6.9	17.3	6.9	7.3
59.5°	6.9	6.9	6.9	15.3	6.9	7.3
60°	6.9	6.5	6.5	12.9	6.5	6.9
60.5°	6.5	6.5	6.5	10.5	6.5	6.5
61°	6.5	6.0	6.0	8.1	6.0	6.5
61.5°	6.0	6.0	6.0	6.0	6.0	6.0
62°	6.0	5.6	5.6	5.6	5.6	6.0
62.5°	5.6	5.6	5.6	5.6	5.6	5.6
63°	5.6	5.2	5.2	5.2	5.6	5.6
63.5°	5.2	4.8	5.2	5.2	5.2	5.2
64°	5.2	4.8	4.8	5.2	5.2	5.2
64.5°	4.8	4.4	4.8	4.8	4.8	4.8
65°	4.8	4.4	4.8	4.8	4.8	4.8
65.5°	4.8	4.4	4.4	4.4	4.8	4.4
66°	4.4	4.0	4.4	4.4	4.4	4.4



TEST NUMBER: P776488

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

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	4.0	3.6	4.0	4.0	4.0	4.0
68°	3.6	3.6	3.6	4.0	4.0	3.6
68.5°	3.6	3.2	3.6	3.6	3.6	3.6
69°	3.6	3.2	3.6	3.6	3.6	3.6
69.5°	3.2	3.2	3.2	3.6	3.6	3.2
70°	3.2	2.8	3.2	3.2	3.2	3.2
70.5°	3.2	2.8	3.2	3.2	3.2	3.2
71°	2.8	2.8	2.8	2.8	3.2	2.8
71.5°	2.8	2.8	2.8	2.8	2.8	2.8
72°	2.8	2.4	2.8	2.8	2.8	2.8
72.5°	2.8	2.4	2.4	2.4	2.8	2.8
73°	2.4	2.4	2.4	2.4	2.8	2.4
73.5°	2.4	2.4	2.4	2.4	2.4	2.4
74°	2.4	2.0	2.4	2.0	2.4	2.4
74.5°	2.0	2.0	2.0	2.0	2.4	2.4
75°	2.0	2.0	2.0	2.0	2.0	2.0
75.5°	2.0	2.0	2.0	2.0	2.0	2.0
76°	2.0	1.6	2.0	1.6	2.0	2.0
76.5°	2.0	1.6	1.6	1.6	2.0	2.0
77°	1.6	1.6	1.6	1.6	1.6	1.6
77.5°	1.6	1.6	1.6	1.6	1.6	1.6
78°	1.6	1.6	1.6	1.2	1.6	1.6
78.5°	1.6	1.6	1.6	1.2	1.6	1.6
79°	1.2	1.2	1.2	1.2	1.6	1.6
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: P776488  
CATALOG NUMBER: HCDJBL3040CSD-HCD8TRC-4000lm-4000K

**CANDELA DISTRIBUTION (continued):**

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



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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°	2862.3	2895.3	2944.5	2978.4	3028.4	3041.7	3065.5	3036.4	3008.2	2971.9	2920.3
22°	2828.0	2863.1	2913.1	2946.9	3000.5	3013.9	3035.6	3008.2	2980.4	2942.5	2888.5



44°	525.7	743.4	1263.0	1003.0	759.5	1008.6	1408.2	1049.0	715.6	899.4	1267.5
44.5°	470.9	684.5	1227.6	940.5	699.0	942.9	1371.1	986.5	654.7	836.9	1232.8



66.5°	4.0	4.8	5.2	6.0	6.5	6.5	5.6	6.0	5.6	5.6	4.8
67°	4.0	4.4	5.2	5.6	6.0	6.0	5.6	5.6	5.6	5.2	4.8



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°	2859.0	2805.8	2798.6	2819.9	2839.7	2862.3
22°	2826.0	2770.4	2765.5	2786.9	2805.8	2828.0



44°	844.2	516.0	682.5	1138.5	781.3	525.7
44.5°	783.7	461.2	626.1	1104.6	725.2	470.9

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66.5°	4.4	4.0	4.0	4.4	4.4	4.0
67°	4.0	3.6	4.0	4.0	4.0	4.0

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

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Scaled Data Report



(END OF REPORT)