

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: P776431

Luminaire Tested: HCDJBL3040CSD-HCD6TSQMW-4000lm-3000K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776431  
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-HCD6TSQMW-4000lm-3000K  
Description: 6 INCH SQUARE MEDIUM MATTE WHITE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

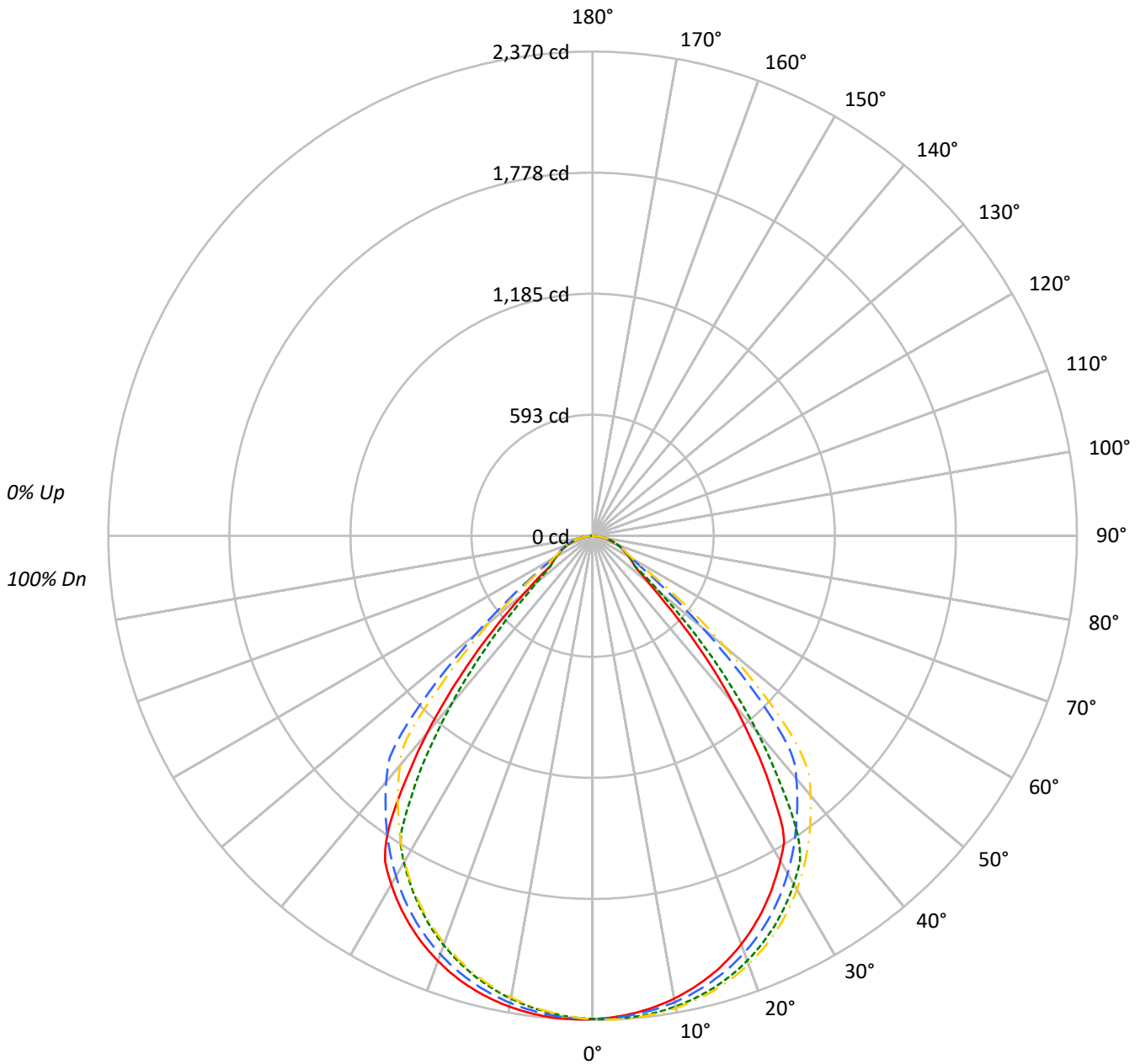
Lumens per Lamp: N/A  
Luminaire Lumens: 4150.4 lumens  
Efficiency: N/A  
Efficacy: 107.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.2 / 1.27  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')

CIE Type: Direct  
Input Watts (W): 38.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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				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
1	111	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89			89
2	104	97	92	88	101	96	91	87	92	88	85	89	86	83	86	83	81	79			79
3	97	88	82	77	94	87	81	76	84	79	75	81	77	73	79	75	72	70			70
4	90	80	73	68	88	79	72	67	77	71	66	75	70	66	73	68	65	63			63
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	57			57
6	78	67	60	54	77	66	59	54	65	58	54	63	58	53	62	57	53	51			51
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46			46
8	69	57	50	45	67	57	49	45	55	49	44	54	48	44	53	48	44	42			42
9	65	53	46	41	63	52	46	41	51	45	41	50	45	40	49	44	40	39			39
10	61	49	42	38	60	49	42	38	48	42	37	47	41	37	46	41	37	36			36

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	101848	101848	101848	101848
5°	101360	102155	102220	101373
10°	100560	102274	102344	100595
15°	99334	102093	102142	99441
20°	97484	101411	101461	97695
25°	94823	100068	100144	95161
30°	91334	97911	97991	91801
35°	80540	90821	91110	80823
40°	60010	70391	70813	60207
45°	39061	48237	48541	39274
50°	24067	28736	29050	24221
55°	18571	18624	18624	18571
60°	17825	17765	17765	17825
65°	16983	17146	16983	17228
70°	16113	16604	16214	16705
75°	14905	16086	15305	16020
80°	12819	15422	13885	14852
85°	7163	13931	10424	12004

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 135°  
 Vertical Angle: 45°  
 Luminance: 83364 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	223.7	5.4
10°-20°	637.4	15.4
20°-30°	946.5	22.8
30°-40°	1046.5	25.2
40°-50°	709.2	17.1
50°-60°	289.1	7.0
60°-70°	170.6	4.1
70°-80°	100.9	2.4
80°-90°	26.6	0.6
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°	1807.6	43.6
0°-40°	2854.1	68.8
0°-60°	3852.4	92.8
0°-90°	4150.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4150.4	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2366	2366	2366	2366	2366	
5°	2345	2364	2365	2346	2345	222
15°	2228	2290	2292	2231	2228	628
25°	1996	2106	2108	2003	1996	918
35°	1532	1728	1733	1538	1532	938
45°	642	792	797	645	642	507
55°	247	248	248	247	247	232
65°	167	168	167	169	167	165
75°	90	97	92	96	90	95
85°	14	28	21	24	14	21
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°	2365.5	2365.5	2365.5	2365.5	2365.5	2365.5	2365.5	2365.5	2365.5	2365.5	2365.5
0.5°	2365.5	2364.7	2364.7	2365.5	2365.9	2366.3	2367.1	2367.5	2367.5	2365.9	2364.7
1°	2363.9	2363.9	2363.9	2365.5	2366.7	2367.1	2368.2	2368.2	2367.9	2365.9	2364.7
1.5°	2362.4	2362.8	2363.6	2365.1	2367.1	2367.9	2369.0	2369.0	2368.2	2366.3	2363.9
2°	2360.8	2361.6	2362.8	2364.7	2367.1	2367.9	2369.4	2369.4	2368.6	2365.9	2363.6
2.5°	2358.9	2359.6	2361.6	2364.3	2367.1	2368.2	2369.8	2369.8	2368.6	2365.5	2362.4
3°	2356.5	2357.7	2360.0	2363.6	2366.7	2368.2	2369.8	2369.8	2368.2	2365.1	2361.2
3.5°	2354.2	2355.7	2358.5	2362.4	2366.3	2367.9	2369.8	2369.4	2367.9	2364.3	2360.0
4°	2351.4	2353.4	2356.9	2361.2	2365.5	2367.5	2369.4	2369.0	2367.1	2363.2	2358.5
4.5°	2348.3	2351.0	2354.9	2359.6	2364.7	2367.1	2368.6	2368.6	2366.3	2362.0	2356.9
5°	2345.2	2348.3	2352.6	2357.7	2363.6	2366.3	2367.9	2367.9	2365.1	2360.4	2354.9
5.5°	2342.0	2345.5	2350.2	2356.1	2362.0	2365.1	2367.1	2366.7	2363.9	2358.9	2352.6
6°	2338.1	2342.0	2347.5	2353.8	2360.4	2363.9	2365.9	2365.5	2362.4	2356.9	2350.2
6.5°	2334.6	2338.9	2344.4	2351.4	2358.9	2362.4	2364.3	2363.9	2360.4	2354.6	2347.5
7°	2330.3	2335.0	2341.2	2348.7	2356.9	2360.8	2362.8	2362.0	2358.5	2351.8	2344.4
7.5°	2326.0	2331.5	2338.1	2345.9	2354.2	2358.9	2360.8	2360.0	2356.1	2349.1	2341.2
8°	2321.3	2327.2	2334.6	2342.8	2351.8	2356.5	2358.9	2357.7	2353.4	2346.3	2338.1
8.5°	2316.2	2322.8	2330.7	2339.7	2349.1	2353.8	2356.5	2355.3	2350.6	2343.2	2334.2
9°	2311.1	2317.8	2326.4	2335.8	2345.9	2351.4	2353.8	2352.2	2347.5	2339.7	2330.3
9.5°	2306.0	2313.1	2322.1	2332.2	2342.8	2348.3	2351.0	2349.5	2344.4	2336.2	2326.0
10°	2300.1	2308.0	2317.8	2327.9	2339.3	2345.2	2347.9	2345.9	2340.9	2332.6	2321.7
10.5°	2294.3	2302.5	2312.7	2323.6	2335.8	2341.6	2344.4	2342.8	2336.9	2328.3	2317.0
11°	2288.0	2296.6	2308.0	2319.3	2331.5	2338.1	2340.9	2338.9	2333.0	2323.6	2312.3
11.5°	2281.4	2290.8	2302.5	2314.6	2327.2	2333.8	2336.9	2335.0	2328.7	2318.9	2307.2
12°	2274.7	2284.5	2297.0	2309.5	2322.8	2329.9	2333.0	2330.7	2324.4	2314.2	2301.7
12.5°	2267.7	2278.2	2291.1	2304.5	2318.2	2325.2	2328.3	2326.4	2319.3	2309.2	2296.2
13°	2260.6	2271.6	2284.9	2298.6	2313.1	2320.5	2323.6	2321.3	2314.6	2303.7	2290.4
13.5°	2253.2	2264.5	2278.6	2292.7	2307.6	2315.8	2318.9	2316.2	2309.2	2298.2	2284.1
14°	2245.4	2257.1	2272.4	2286.8	2302.1	2310.3	2313.8	2311.1	2303.7	2291.9	2277.8
14.5°	2237.1	2249.7	2265.3	2280.6	2296.2	2304.8	2308.4	2305.6	2297.8	2286.1	2270.8
15°	2228.5	2241.8	2258.3	2273.9	2290.4	2299.4	2302.9	2299.8	2291.5	2279.4	2264.1
15.5°	2219.9	2233.6	2250.4	2266.9	2284.1	2293.1	2297.0	2293.5	2285.3	2272.8	2257.1
16°	2210.9	2225.0	2243.0	2259.8	2277.4	2286.5	2290.8	2287.2	2278.2	2265.7	2249.3
16.5°	2201.5	2216.4	2235.2	2252.8	2270.4	2280.2	2284.5	2281.0	2271.6	2258.7	2241.8
17°	2191.7	2207.4	2227.4	2245.0	2263.0	2273.1	2277.8	2273.9	2264.1	2250.8	2233.6
17.5°	2182.0	2198.0	2218.7	2236.7	2255.9	2266.1	2270.8	2266.5	2256.7	2243.0	2225.4
18°	2171.4	2188.2	2209.7	2228.5	2247.7	2258.7	2263.8	2259.1	2248.9	2234.8	2216.8
18.5°	2161.2	2178.4	2200.3	2219.9	2239.9	2251.2	2255.9	2251.2	2240.7	2226.6	2208.2
19°	2150.3	2168.3	2191.3	2211.3	2231.3	2243.0	2248.1	2243.0	2232.0	2217.6	2198.4
19.5°	2138.9	2157.7	2181.6	2201.9	2222.3	2234.8	2240.3	2234.8	2223.4	2209.0	2189.4
20°	2127.6	2147.1	2171.8	2192.5	2213.3	2225.8	2231.7	2226.2	2214.4	2199.6	2180.0
20.5°	2115.8	2135.4	2161.6	2182.3	2204.3	2216.8	2223.0	2217.2	2205.0	2190.2	2169.8
21°	2103.7	2124.0	2151.0	2172.2	2194.1	2207.4	2214.0	2207.8	2195.7	2180.0	2159.6

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2065.3	2087.6	2117.4	2140.5	2163.6	2178.0	2185.1	2178.4	2165.1	2149.5	2127.2
23°	2052.0	2075.1	2105.6	2129.1	2152.6	2167.5	2174.9	2168.3	2154.2	2137.7	2115.4
23.5°	2038.7	2062.2	2093.5	2117.4	2141.6	2156.9	2164.7	2157.7	2143.2	2126.4	2103.7
24°	2025.0	2049.3	2081.4	2105.6	2129.9	2145.9	2153.8	2146.7	2131.5	2115.0	2091.5
24.5°	2010.5	2035.6	2068.5	2093.5	2118.2	2134.6	2142.4	2135.4	2119.7	2103.3	2079.4
25°	1996.0	2021.9	2055.5	2081.0	2106.4	2122.9	2131.1	2123.6	2108.0	2091.2	2066.5
25.5°	1981.2	2007.4	2042.2	2068.1	2093.9	2111.1	2119.7	2111.9	2095.5	2078.6	2054.0
26°	1966.3	1993.3	2028.5	2055.1	2081.0	2098.6	2107.6	2099.4	2082.9	2065.7	2041.1
26.5°	1951.0	1978.8	2014.4	2041.8	2068.1	2086.1	2095.1	2086.8	2069.6	2052.8	2027.4
27°	1935.4	1964.0	2000.4	2028.5	2054.8	2073.1	2082.1	2073.9	2056.7	2039.5	2013.3
27.5°	1919.3	1947.9	1985.9	2014.8	2041.4	2060.2	2069.6	2061.0	2043.4	2026.2	2000.0
28°	1903.3	1932.6	1971.0	2000.7	2027.0	2046.5	2055.9	2047.3	2029.3	2011.7	1985.1
28.5°	1887.2	1917.0	1955.7	1985.9	2013.3	2032.8	2042.2	2034.0	2014.8	1998.0	1970.6
29°	1870.8	1901.3	1941.3	1971.4	1998.8	2018.7	2028.1	2019.5	2000.7	1983.1	1955.3
29.5°	1854.0	1884.9	1925.2	1956.5	1984.3	2004.7	2014.4	2005.4	1986.3	1969.4	1940.1
30°	1837.1	1869.2	1909.2	1941.3	1969.4	1989.8	1999.6	1991.0	1971.0	1953.4	1924.8
30.5°	1819.9	1852.4	1893.1	1926.0	1953.8	1975.3	1984.7	1976.5	1955.3	1938.5	1909.2
31°	1802.7	1835.6	1876.7	1910.3	1937.7	1960.4	1969.8	1960.8	1939.7	1922.5	1893.1
31.5°	1785.5	1818.4	1859.8	1894.3	1922.1	1945.2	1954.6	1945.6	1924.0	1906.8	1876.7
32°	1768.7	1801.1	1843.0	1878.2	1904.9	1929.1	1938.5	1930.3	1907.2	1891.2	1860.2
32.5°	1738.5	1783.5	1825.8	1861.8	1888.4	1913.5	1923.2	1914.2	1890.4	1874.7	1843.8
33°	1707.2	1765.9	1809.0	1845.0	1864.5	1897.0	1906.8	1897.8	1864.5	1857.9	1826.6
33.5°	1665.7	1748.7	1791.0	1827.8	1836.8	1880.6	1890.4	1881.4	1837.9	1841.8	1809.4
34°	1621.1	1731.9	1773.3	1809.7	1805.1	1863.0	1873.2	1864.5	1807.0	1823.8	1791.7
34.5°	1575.7	1702.9	1755.3	1792.5	1769.0	1845.8	1856.7	1845.8	1771.8	1805.1	1774.5
35°	1532.3	1671.6	1737.3	1767.1	1727.9	1826.2	1839.9	1825.4	1733.4	1781.2	1756.5
35.5°	1489.2	1632.8	1718.9	1739.7	1684.5	1796.4	1822.7	1796.4	1690.0	1754.2	1738.5
36°	1445.8	1589.4	1700.9	1709.6	1636.0	1769.8	1805.1	1770.6	1642.2	1725.6	1720.5
36.5°	1400.8	1546.7	1682.2	1674.3	1587.4	1735.4	1787.8	1737.7	1594.5	1691.6	1702.5
37°	1352.6	1504.1	1663.8	1636.0	1535.4	1697.0	1770.2	1701.3	1544.8	1654.0	1683.3
37.5°	1304.1	1461.4	1645.0	1594.5	1486.5	1655.5	1751.8	1662.2	1494.7	1614.4	1664.9
38°	1255.2	1418.4	1626.2	1549.1	1437.9	1611.3	1733.8	1619.1	1446.9	1570.2	1646.5
38.5°	1207.0	1375.3	1607.8	1502.1	1392.1	1564.7	1715.4	1573.7	1400.0	1524.4	1628.1
39°	1159.7	1330.7	1588.6	1455.9	1345.6	1516.6	1697.8	1526.4	1353.4	1477.5	1609.0
39.5°	1113.5	1284.5	1570.2	1409.4	1299.8	1466.9	1679.0	1479.0	1307.2	1430.5	1590.2
40°	1067.7	1236.0	1550.7	1362.4	1252.4	1419.5	1661.0	1431.7	1259.9	1383.9	1571.4
40.5°	1023.9	1188.6	1531.5	1318.2	1204.7	1373.7	1641.8	1385.9	1212.1	1338.5	1552.6
41°	978.8	1142.8	1512.3	1274.3	1155.4	1329.1	1623.1	1340.1	1162.4	1294.3	1533.0
41.5°	934.6	1097.0	1494.3	1230.5	1106.8	1284.1	1603.1	1295.5	1113.9	1250.9	1513.1
42°	889.6	1052.4	1466.1	1187.5	1059.1	1239.1	1583.1	1250.9	1065.7	1207.0	1492.7
42.5°	845.8	1010.5	1436.4	1143.2	1012.9	1193.7	1564.0	1205.8	1018.8	1162.0	1469.2
43°	801.5	966.7	1395.7	1097.0	967.9	1147.1	1529.1	1159.3	973.4	1116.6	1428.9
43.5°	760.5	923.7	1351.0	1052.8	922.9	1100.6	1494.7	1111.9	928.7	1070.4	1394.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	641.5	794.5	1202.3	920.9	792.2	963.6	1369.1	974.5	797.2	937.4	1245.0
45.5°	603.9	753.0	1152.2	879.8	748.3	920.1	1319.3	929.5	755.0	894.7	1192.5
46°	567.9	712.3	1099.4	838.7	706.4	877.1	1265.7	886.5	712.7	853.2	1139.3
46.5°	533.8	674.0	1046.6	797.6	666.1	833.6	1210.9	843.8	672.0	812.5	1086.1
47°	500.6	634.8	993.7	757.3	627.0	791.4	1155.0	801.2	633.3	771.8	1033.2
47.5°	470.0	598.4	940.9	717.4	589.4	749.9	1098.2	759.3	595.7	731.9	981.2
48°	442.3	562.8	889.6	678.3	554.2	709.2	1044.2	719.0	560.1	693.5	929.5
48.5°	418.0	528.4	841.5	640.7	520.1	669.3	990.6	677.9	525.6	654.8	879.4
49°	396.5	495.1	795.3	604.3	488.1	629.3	940.5	638.7	493.1	618.4	830.9
49.5°	377.3	465.0	749.9	569.5	457.5	592.2	891.6	601.2	462.6	582.0	783.9
50°	359.3	436.0	705.7	534.2	429.0	555.8	843.8	564.8	433.7	547.5	738.9
50.5°	344.4	410.2	664.6	501.4	402.3	521.3	797.2	529.1	406.3	513.9	695.9
51°	329.9	386.7	624.6	470.4	377.7	488.8	751.8	496.3	381.6	483.0	653.2
51.5°	316.2	367.1	586.3	441.5	358.5	457.5	706.8	465.0	361.6	452.8	614.1
52°	302.1	349.1	549.1	413.7	338.9	428.6	664.6	434.8	341.3	425.0	576.1
52.5°	288.8	333.5	514.7	387.5	319.8	400.8	621.5	406.6	321.3	397.6	539.7
53°	275.5	318.6	481.8	363.2	300.2	376.1	580.8	380.0	301.0	372.2	505.7
53.5°	265.0	304.9	450.9	340.5	281.0	356.2	542.1	359.3	281.0	351.5	472.8
54°	256.7	291.6	422.3	320.2	265.7	335.8	507.6	338.5	265.7	330.7	442.7
54.5°	251.7	278.7	395.3	301.4	254.4	315.5	472.4	317.8	254.0	310.0	414.5
55°	247.4	265.0	370.6	283.8	248.1	295.1	440.7	297.1	248.1	289.2	388.6
55.5°	243.0	254.0	347.5	267.3	243.4	275.1	410.2	276.3	243.0	272.0	364.4
56°	238.7	245.0	327.2	252.4	239.1	259.1	382.8	259.9	238.7	256.7	345.2
56.5°	234.8	239.9	308.0	241.5	234.8	245.8	360.9	246.2	234.4	245.0	326.0
57°	230.9	235.6	290.8	235.6	230.5	237.6	338.5	237.2	230.5	238.4	306.8
57.5°	226.6	231.3	275.1	231.3	226.6	232.5	316.6	232.1	226.2	233.7	287.7
58°	222.7	227.4	262.2	227.0	222.3	228.2	294.3	227.8	222.3	229.3	272.4
58.5°	218.8	223.1	250.5	222.7	218.4	224.3	272.4	223.9	218.0	225.4	259.5
59°	214.9	219.2	239.9	218.8	214.5	220.0	257.1	220.0	214.1	221.1	248.1
59.5°	211.0	215.3	230.9	214.5	210.6	216.0	244.2	215.7	210.2	217.2	238.0
60°	207.0	211.3	223.1	210.6	206.3	212.1	233.3	211.7	206.3	213.3	229.0
60.5°	202.7	207.4	215.7	206.6	202.3	207.8	224.3	207.8	202.3	209.0	221.1
61°	198.8	203.5	209.0	202.3	198.8	203.9	215.7	203.9	198.0	205.1	214.1
61.5°	194.9	199.6	203.1	198.8	194.9	200.0	208.6	200.0	194.1	201.2	207.4
62°	191.0	195.7	197.6	194.9	191.0	196.5	202.0	196.1	190.2	197.3	201.6
62.5°	186.7	191.8	192.6	190.6	187.1	192.6	196.1	192.2	186.3	193.3	196.5
63°	182.8	187.9	188.3	186.7	183.2	188.6	191.0	187.9	182.0	189.0	191.4
63.5°	178.9	183.6	183.9	182.8	179.6	184.7	185.9	183.9	178.5	185.1	187.1
64°	174.9	179.6	179.6	178.9	175.7	180.8	182.0	180.0	174.6	181.2	183.2
64.5°	170.6	175.7	175.7	174.9	172.2	176.9	177.7	176.1	170.6	177.3	178.9
65°	166.7	171.8	171.8	171.4	168.3	173.4	173.8	172.2	166.7	173.4	174.9
65.5°	162.8	167.5	167.5	167.5	164.8	169.5	169.9	168.3	162.8	169.5	171.0
66°	158.9	163.6	163.6	163.6	160.9	165.6	165.6	164.4	158.9	165.6	166.7





TEST NUMBER: P776431

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQMW-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	147.2	151.9	151.9	152.2	149.9	154.2	153.8	152.6	147.6	153.8	155.0
68°	143.2	147.9	147.9	148.3	146.4	150.7	149.9	148.7	143.6	149.5	151.1
68.5°	139.3	144.0	144.0	144.4	142.9	146.8	146.4	145.2	139.7	146.0	147.2
69°	135.4	140.1	140.1	142.5	139.3	143.2	142.5	141.3	136.2	142.1	143.2
69.5°	131.9	136.2	136.2	138.5	135.8	139.3	138.2	137.4	132.3	138.2	139.3
70°	128.0	132.3	132.3	134.6	131.9	135.8	134.6	133.5	128.8	134.2	135.4
70.5°	124.1	128.4	128.4	130.3	128.4	132.3	130.7	129.9	124.9	130.3	131.5
71°	120.5	124.9	124.5	126.4	124.9	128.4	126.8	126.0	121.3	126.4	127.6
71.5°	116.6	120.5	120.9	122.9	121.3	124.9	122.9	122.1	117.4	122.5	123.7
72°	112.7	117.0	117.0	119.0	117.8	120.9	119.0	118.6	113.9	119.0	119.8
72.5°	108.8	112.7	113.1	115.5	114.3	117.4	115.5	114.7	110.0	115.1	115.8
73°	104.9	109.2	109.2	111.5	110.8	113.9	111.5	110.8	106.5	111.2	111.9
73.5°	101.0	105.3	105.3	108.0	107.2	110.4	107.6	107.2	102.9	107.2	108.0
74°	97.1	101.4	101.4	104.1	103.7	106.5	104.1	103.3	99.0	103.7	104.1
74.5°	93.5	97.5	97.5	100.6	100.2	102.9	100.2	99.8	95.5	99.8	100.6
75°	89.6	93.5	93.9	97.1	96.7	99.4	96.7	95.9	92.0	95.9	96.7
75.5°	85.7	89.6	90.0	93.5	93.1	95.9	92.8	92.4	88.1	92.4	92.8
76°	82.2	85.7	86.1	89.6	89.6	92.4	88.8	88.5	84.5	88.5	88.8
76.5°	78.3	81.8	82.2	86.1	86.1	88.8	85.3	84.5	81.0	84.5	85.3
77°	74.4	77.9	78.3	82.6	83.0	85.3	81.8	81.0	77.5	81.0	81.4
77.5°	70.4	74.0	74.8	78.7	79.5	81.8	77.9	77.1	74.0	77.1	77.5
78°	66.9	70.1	70.8	75.1	75.9	77.9	74.4	73.6	70.4	73.2	74.0
78.5°	63.0	66.5	66.9	71.6	72.4	74.4	70.4	69.7	66.5	69.7	70.1
79°	59.1	62.6	63.4	67.7	68.9	70.8	66.9	66.1	63.0	65.8	66.1
79.5°	55.2	58.7	59.5	64.2	65.4	67.3	63.4	62.2	59.9	61.8	62.6
80°	51.7	54.8	55.6	60.3	62.2	63.8	59.5	58.7	56.0	58.3	58.7
80.5°	47.7	50.9	52.1	56.8	58.7	60.3	56.0	54.8	52.4	54.4	55.2
81°	44.2	47.0	48.1	53.2	55.2	56.4	52.4	51.3	48.9	50.9	51.3
81.5°	40.3	43.1	44.6	49.7	51.7	52.8	48.9	47.4	45.4	47.0	47.7
82°	36.8	39.5	40.7	46.2	48.5	49.3	45.4	43.8	41.9	43.1	43.8
82.5°	32.9	35.6	37.2	42.7	45.0	46.2	41.9	39.9	38.4	39.5	40.3
83°	29.4	31.7	33.7	39.1	41.9	42.7	38.7	36.4	34.8	35.6	36.8
83.5°	25.4	27.8	30.5	35.6	38.4	39.1	35.6	32.9	31.3	32.1	33.7
84°	21.9	23.9	27.0	32.1	34.8	35.6	32.5	29.0	27.8	28.2	30.5
84.5°	18.0	20.4	23.9	29.0	31.7	32.5	29.0	25.4	24.3	24.7	27.4
85°	14.5	16.4	21.1	25.4	28.2	29.0	25.8	21.9	21.1	20.7	24.3
85.5°	12.1	14.1	18.0	21.9	25.0	25.8	22.7	18.8	17.6	17.6	21.1
86°	9.8	11.7	15.3	18.8	21.5	22.3	20.0	16.0	14.1	14.5	18.0
86.5°	7.8	9.0	12.5	15.3	18.4	18.8	16.8	13.3	11.4	12.1	15.3
87°	5.5	6.7	9.4	12.1	14.9	15.7	14.1	11.0	9.4	9.8	12.1
87.5°	3.5	4.3	6.7	9.0	11.7	12.5	11.4	8.6	7.4	7.8	9.4
88°	1.6	2.3	3.9	5.9	8.6	9.4	8.6	6.7	5.9	5.9	6.7
88.5°	0.4	0.8	1.6	2.7	5.5	5.9	5.9	4.7	3.9	3.5	3.5



TEST NUMBER: P776431  
CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQMW-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.0	0.4	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0



TEST NUMBER: P776431

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQMW-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2365.5	2365.5	2365.5	2365.5	2365.5	2365.5
0.5°	2364.7	2363.9	2363.9	2364.7	2364.7	2365.5
1°	2363.9	2362.8	2362.4	2363.2	2363.2	2363.9
1.5°	2362.8	2361.2	2360.4	2360.8	2361.6	2362.4
2°	2361.6	2359.2	2358.5	2358.9	2359.6	2360.8
2.5°	2360.4	2357.7	2356.5	2356.5	2357.3	2358.9
3°	2358.9	2355.7	2353.8	2353.8	2354.9	2356.5
3.5°	2356.9	2353.8	2351.4	2351.4	2352.2	2354.2
4°	2354.9	2351.0	2348.7	2348.3	2349.1	2351.4
4.5°	2352.6	2348.3	2345.5	2345.2	2345.9	2348.3
5°	2350.2	2345.5	2342.0	2341.6	2342.8	2345.2
5.5°	2347.5	2342.0	2338.9	2337.7	2339.3	2342.0
6°	2344.8	2338.1	2335.4	2334.2	2335.4	2338.1
6.5°	2341.6	2334.6	2331.1	2330.3	2331.1	2334.6
7°	2338.1	2330.7	2326.8	2325.6	2326.8	2330.3
7.5°	2334.2	2326.4	2322.5	2320.9	2322.5	2326.0
8°	2330.3	2321.7	2317.8	2316.2	2317.4	2321.3
8.5°	2326.4	2317.0	2312.7	2311.1	2312.7	2316.2
9°	2321.7	2311.9	2307.2	2305.6	2307.2	2311.1
9.5°	2317.0	2306.4	2301.7	2300.1	2301.3	2306.0
10°	2312.3	2300.9	2295.8	2294.3	2295.8	2300.1
10.5°	2306.8	2295.1	2290.4	2288.4	2290.0	2294.3
11°	2301.3	2289.2	2283.7	2282.1	2283.3	2288.0
11.5°	2295.8	2282.9	2277.1	2275.5	2277.1	2281.4
12°	2290.0	2276.3	2270.8	2268.4	2270.0	2274.7
12.5°	2283.7	2269.6	2263.8	2261.4	2263.0	2267.7
13°	2277.1	2262.2	2256.3	2254.0	2255.1	2260.6
13.5°	2270.4	2254.7	2248.9	2246.5	2247.7	2253.2
14°	2263.8	2246.9	2241.1	2238.7	2239.9	2245.4
14.5°	2256.3	2239.1	2232.8	2230.9	2231.7	2237.1
15°	2248.5	2230.9	2224.6	2222.3	2223.0	2228.5
15.5°	2240.7	2222.3	2216.0	2213.7	2214.4	2219.9
16°	2232.4	2213.3	2207.0	2204.7	2205.0	2210.9
16.5°	2223.8	2204.3	2197.6	2195.7	2195.7	2201.5
17°	2215.2	2194.9	2188.2	2185.9	2186.3	2191.7
17.5°	2206.2	2185.5	2178.4	2176.1	2176.5	2182.0
18°	2197.2	2175.3	2168.3	2165.9	2165.9	2171.4
18.5°	2187.4	2165.1	2158.1	2155.3	2155.3	2161.2
19°	2177.6	2154.2	2147.1	2144.8	2144.4	2150.3
19.5°	2167.5	2143.2	2136.2	2133.8	2133.4	2138.9
20°	2156.9	2132.2	2124.8	2123.2	2122.1	2127.6
20.5°	2146.3	2120.5	2113.1	2111.5	2110.3	2115.8
21°	2135.0	2109.2	2101.3	2099.8	2098.2	2103.7

TEST NUMBER: P776431

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQMW-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2100.2	2072.0	2064.1	2062.6	2060.2	2065.3
23°	2088.0	2058.7	2051.2	2049.7	2046.9	2052.0
23.5°	2075.5	2045.4	2037.5	2036.4	2033.6	2038.7
24°	2062.6	2031.7	2024.2	2022.7	2019.5	2025.0
24.5°	2049.7	2017.6	2010.5	2008.6	2005.4	2010.5
25°	2036.4	2003.1	1996.8	1994.9	1991.3	1996.0
25.5°	2022.7	1988.6	1981.6	1980.4	1976.9	1981.2
26°	2008.6	1974.1	1967.5	1965.9	1962.0	1966.3
26.5°	1994.5	1959.3	1952.6	1951.0	1946.7	1951.0
27°	1979.6	1944.0	1937.3	1936.2	1931.5	1935.4
27.5°	1964.7	1927.9	1922.1	1920.5	1915.8	1919.3
28°	1949.9	1912.3	1906.0	1904.5	1900.2	1903.3
28.5°	1935.0	1895.9	1890.0	1888.4	1883.7	1887.2
29°	1918.9	1879.8	1873.9	1872.4	1867.7	1870.8
29.5°	1903.3	1863.4	1857.5	1855.9	1851.2	1854.0
30°	1886.9	1846.5	1841.1	1839.1	1834.4	1837.1
30.5°	1870.4	1828.9	1823.8	1821.9	1817.6	1819.9
31°	1853.6	1811.3	1807.0	1804.7	1800.4	1802.7
31.5°	1837.5	1792.9	1789.0	1787.0	1782.7	1785.5
32°	1820.3	1775.7	1771.4	1769.4	1765.5	1768.7
32.5°	1803.1	1746.3	1753.8	1751.4	1747.9	1738.5
33°	1785.5	1715.0	1735.8	1733.8	1729.9	1707.2
33.5°	1767.5	1672.0	1716.2	1715.4	1711.5	1665.7
34°	1748.7	1627.4	1699.0	1697.0	1694.7	1621.1
34.5°	1731.1	1582.4	1666.9	1678.2	1674.3	1575.7
35°	1703.3	1537.7	1636.4	1659.5	1639.9	1532.3
35.5°	1672.4	1494.3	1592.5	1640.7	1607.8	1489.2
36°	1632.5	1450.9	1552.6	1621.9	1566.7	1445.8
36.5°	1588.2	1405.5	1509.2	1603.1	1523.3	1400.8
37°	1546.3	1358.1	1467.3	1583.5	1481.0	1352.6
37.5°	1502.5	1309.6	1424.6	1564.4	1440.3	1304.1
38°	1459.5	1259.1	1383.1	1545.2	1399.2	1255.2
38.5°	1416.8	1210.2	1340.5	1526.0	1356.9	1207.0
39°	1374.9	1162.8	1296.3	1506.8	1315.0	1159.7
39.5°	1328.3	1116.2	1249.7	1487.2	1270.4	1113.5
40°	1281.8	1071.2	1203.9	1467.7	1225.0	1067.7
40.5°	1233.6	1027.4	1158.1	1448.1	1179.2	1023.9
41°	1187.8	982.8	1111.9	1428.9	1133.4	978.8
41.5°	1140.1	937.4	1066.9	1408.2	1089.6	934.6
42°	1094.7	892.3	1026.2	1378.1	1046.9	889.6
42.5°	1050.9	848.9	984.7	1345.6	1005.9	845.8
43°	1009.0	804.7	942.1	1297.8	963.6	801.5
43.5°	964.4	763.6	901.0	1250.9	921.7	760.5

TEST NUMBER: P776431

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQMW-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	837.2	645.0	774.9	1092.7	796.5	641.5
45.5°	793.3	606.6	736.6	1043.8	757.3	603.9
46°	752.2	570.6	697.1	996.5	718.2	567.9
46.5°	711.9	535.8	659.9	950.3	679.8	533.8
47°	673.2	502.9	622.3	904.1	642.6	500.6
47.5°	635.2	472.4	587.1	857.9	607.0	470.0
48°	598.4	444.2	551.8	812.1	571.0	442.3
48.5°	562.8	419.6	518.6	769.1	537.4	418.0
49°	528.4	397.6	487.7	727.2	505.3	396.5
49.5°	495.9	378.5	458.7	686.9	475.1	377.3
50°	464.6	361.6	430.5	647.3	445.4	359.3
50.5°	435.6	345.6	406.6	611.7	419.6	344.4
51°	409.8	331.1	384.3	577.3	396.1	329.9
51.5°	387.1	317.4	365.2	544.0	375.3	316.2
52°	367.1	304.1	347.9	512.7	356.5	302.1
52.5°	349.5	290.4	332.7	482.6	340.1	288.8
53°	335.0	277.1	318.6	454.0	324.8	275.5
53.5°	320.5	265.7	304.5	427.4	310.8	265.0
54°	306.1	257.1	291.2	401.9	297.1	256.7
54.5°	292.0	251.7	277.9	378.5	284.1	251.7
55°	278.7	247.4	265.0	356.9	270.8	247.4
55.5°	265.0	243.0	254.4	336.6	258.7	243.0
56°	253.6	239.1	246.2	318.2	248.9	238.7
56.5°	244.6	234.8	241.5	301.8	243.0	234.8
57°	239.1	230.9	237.2	286.1	238.4	230.9
57.5°	234.8	226.6	232.9	272.0	234.0	226.6
58°	230.9	222.7	229.0	259.5	230.1	222.7
58.5°	226.6	218.8	224.7	248.1	225.8	218.8
59°	222.7	214.9	220.7	238.7	221.9	214.9
59.5°	218.8	211.0	216.8	230.1	218.0	211.0
60°	214.9	207.0	212.9	222.3	213.7	207.0
60.5°	211.0	203.1	209.0	215.7	209.8	202.7
61°	207.0	199.2	205.1	209.4	205.9	198.8
61.5°	203.1	195.7	201.2	203.5	202.0	194.9
62°	199.2	191.8	197.3	198.4	197.6	191.0
62.5°	195.3	187.9	193.3	193.7	193.7	186.7
63°	191.4	184.3	189.4	189.8	189.8	182.8
63.5°	187.5	180.4	185.5	185.5	185.5	178.9
64°	183.6	176.5	181.6	181.6	181.6	174.9
64.5°	179.6	173.0	177.7	177.3	177.3	170.6
65°	176.1	169.1	173.8	173.4	173.4	166.7
65.5°	172.2	165.6	169.9	169.1	169.1	162.8
66°	168.3	161.6	165.9	165.2	165.2	158.9



TEST NUMBER: P776431

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQMW-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	156.9	150.7	154.6	153.4	153.0	147.2
68°	153.0	146.8	150.7	149.5	148.7	143.2
68.5°	149.1	143.2	146.8	145.2	144.8	139.3
69°	145.2	139.7	143.2	140.5	142.9	135.4
69.5°	141.7	136.2	139.3	137.0	138.5	131.9
70°	137.8	132.7	135.8	133.1	134.2	128.0
70.5°	133.9	128.8	131.9	129.5	129.5	124.1
71°	130.3	125.2	128.0	126.0	125.2	120.5
71.5°	126.4	121.7	124.5	121.7	121.3	116.6
72°	122.9	118.2	120.5	117.8	117.4	112.7
72.5°	119.0	114.3	117.0	113.9	113.5	108.8
73°	115.1	110.8	113.1	110.0	109.2	104.9
73.5°	111.5	106.8	109.2	106.1	105.3	101.0
74°	107.6	103.3	105.3	102.2	101.4	97.1
74.5°	104.1	99.8	101.8	98.2	97.5	93.5
75°	100.2	96.3	97.8	94.3	93.5	89.6
75.5°	96.7	92.4	93.9	90.4	89.6	85.7
76°	92.8	88.8	90.4	86.5	85.3	82.2
76.5°	89.2	85.3	86.5	82.6	81.4	78.3
77°	85.3	81.8	83.0	78.7	77.5	74.4
77.5°	81.8	77.9	79.1	74.8	73.6	70.4
78°	77.9	74.4	75.1	70.8	69.7	66.9
78.5°	74.4	70.8	71.6	66.9	65.8	63.0
79°	70.4	66.9	67.7	63.0	61.8	59.1
79.5°	66.5	63.4	63.8	59.1	57.9	55.2
80°	63.0	59.9	59.9	55.6	53.6	51.7
80.5°	59.1	56.4	56.4	51.7	49.7	47.7
81°	55.6	52.8	52.4	48.1	45.8	44.2
81.5°	51.7	49.3	48.9	44.2	41.9	40.3
82°	48.1	45.4	45.0	40.7	38.0	36.8
82.5°	44.6	41.9	41.5	37.2	34.1	32.9
83°	41.1	38.4	38.0	33.7	30.1	29.4
83.5°	37.6	34.8	34.1	30.1	26.2	25.4
84°	33.7	31.3	30.5	27.0	22.7	21.9
84.5°	30.1	27.8	27.0	23.5	19.6	18.0
85°	26.6	24.3	23.5	20.4	16.4	14.5
85.5°	23.1	20.7	19.6	17.2	13.7	12.1
86°	19.6	17.2	16.0	14.1	11.4	9.8
86.5°	16.0	13.7	12.9	11.0	9.0	7.8
87°	12.9	10.6	9.8	7.8	6.3	5.5
87.5°	9.4	7.4	6.7	5.1	3.9	3.5
88°	6.3	3.9	3.5	2.0	1.6	1.6
88.5°	2.7	0.8	0.4	0.4	0.4	0.4



TEST NUMBER: P776431

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQMW-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.4	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°	2090.8	2112.3	2140.1	2162.0	2183.9	2198.0	2204.3	2198.0	2185.5	2169.8	2149.1
22°	2078.2	2100.2	2128.7	2151.4	2173.7	2188.2	2194.9	2188.6	2175.3	2159.6	2138.1



44°	719.0	879.4	1302.9	1007.8	878.3	1053.2	1458.7	1064.9	884.1	1025.0	1346.4
44.5°	679.8	837.2	1254.0	964.4	834.8	1007.8	1414.8	1019.2	840.7	980.8	1296.3



66.5°	155.0	159.7	159.7	159.7	157.3	161.6	161.6	160.5	155.0	161.6	162.8
67°	151.1	155.8	155.8	156.2	153.8	158.1	157.7	156.6	151.1	157.7	158.9



89°	0.0	0.4	0.4	0.8	2.3	3.1	3.1	2.3	2.0	1.6	1.2
89.5°	0.0	0.0	0.4	0.4	0.4	0.8	1.2	0.8	0.4	0.4	0.4



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21.5°	2123.6	2097.0	2089.2	2087.6	2085.7	2090.8
22°	2112.3	2084.5	2076.7	2075.5	2073.5	2078.2



44°	921.3	721.7	858.3	1194.5	879.8	719.0
44.5°	878.7	683.4	816.8	1144.0	838.3	679.8



66.5°	164.4	158.1	162.0	161.2	160.9	155.0
67°	160.5	154.2	158.5	157.3	156.9	151.1

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89°	0.8	0.0	0.4	0.4	0.4	0.0
89.5°	0.0	0.0	0.0	0.4	0.4	0.0

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Peachtree City, GA 30269

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(END OF REPORT)