

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: P776434

Luminaire Tested: HCDJBL3040CSD-HCD6TSQMW-4000lm-5000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776434
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-5000K
Description: 6 INCH SQUARE MEDIUM MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT
Ballast/Driver: -

Summary

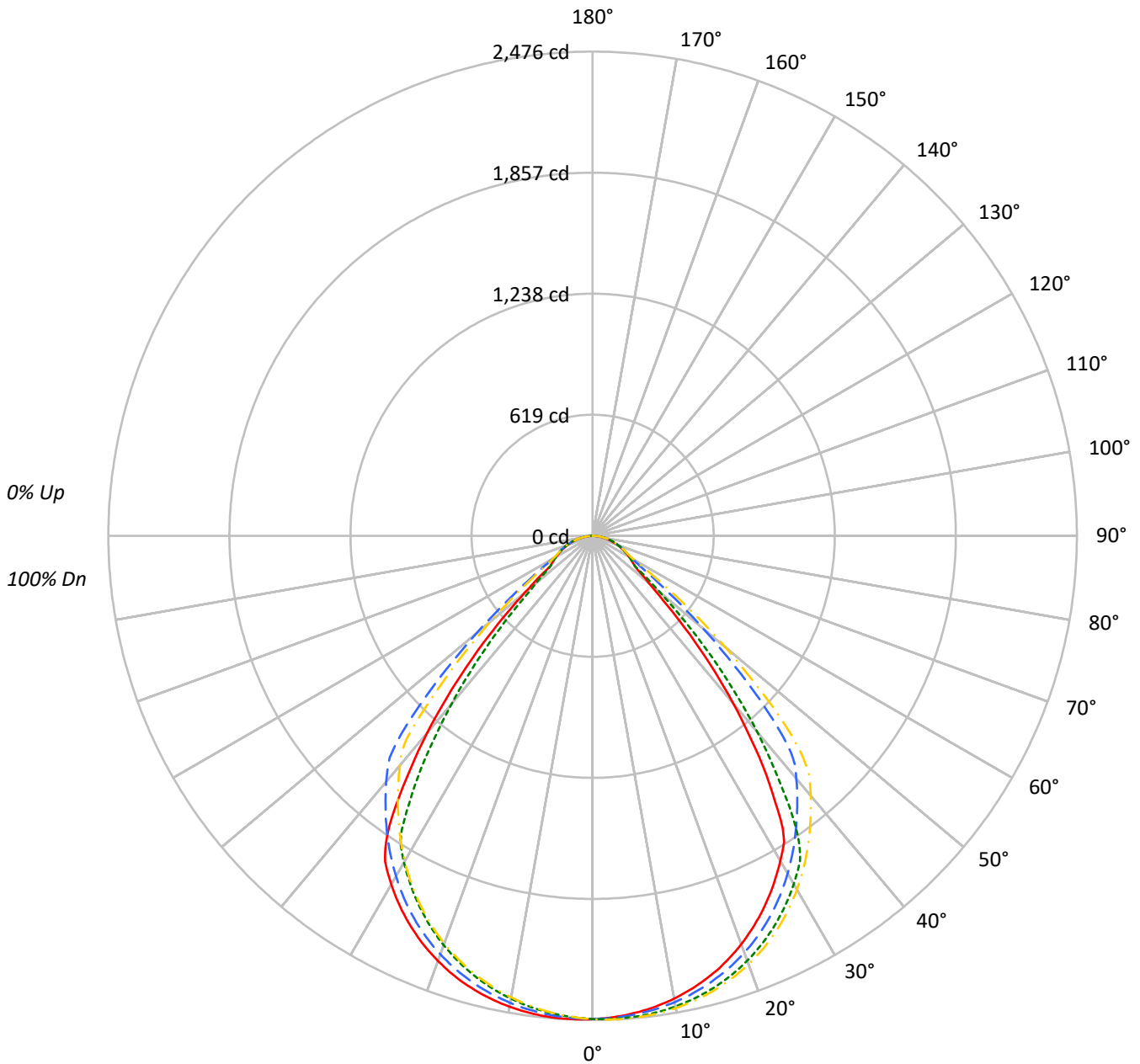
Lumens per Lamp: N/A
Luminaire Lumens: 4336.0 lumens
Efficiency: N/A
Efficacy: 112.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.2 / 1.27
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')

CIE Type: Direct
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{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



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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	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°	106403	106403	106403	106403
5°	105889	106719	106793	105907
10°	105059	106847	106917	105094
15°	103778	106658	106711	103885
20°	101842	105942	106002	102066
25°	99066	104543	104619	99417
30°	95421	102291	102371	95908
35°	84140	94884	95183	84440
40°	62691	73539	73977	62899
45°	40808	50392	50715	41028
50°	25145	30015	30343	25306
55°	19397	19457	19457	19397
60°	18626	18557	18557	18626
65°	17747	17910	17747	17992
70°	16831	17347	16932	17448
75°	15571	16802	15987	16735
80°	13389	16117	14505	15522
85°	7460	14524	10918	12548

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 135°
 Vertical Angle: 45°
 Luminance: 87091 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	233.7	5.4
10°-20°	665.9	15.4
20°-30°	988.8	22.8
30°-40°	1093.3	25.2
40°-50°	740.9	17.1
50°-60°	302.0	7.0
60°-70°	178.2	4.1
70°-80°	105.4	2.4
80°-90°	27.8	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°	1888.4	43.6
0°-40°	2981.7	68.8
0°-60°	4024.6	92.8
0°-90°	4336.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4336.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2471	2471	2471	2471	2471	
5°	2450	2469	2471	2450	2450	232
15°	2328	2393	2394	2331	2328	656
25°	2085	2201	2202	2093	2085	959
35°	1601	1805	1811	1606	1601	980
45°	670	828	833	674	670	529
55°	258	259	259	258	258	242
65°	174	176	174	177	174	173
75°	94	101	96	101	94	99
85°	15	29	22	25	15	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°	2471.3	2471.3	2471.3	2471.3	2471.3	2471.3	2471.3	2471.3	2471.3	2471.3	2471.3
0.5°	2471.3	2470.5	2470.5	2471.3	2471.7	2472.1	2472.9	2473.3	2473.3	2471.7	2470.5
1°	2469.6	2469.6	2469.6	2471.3	2472.5	2472.9	2474.1	2474.1	2473.7	2471.7	2470.5
1.5°	2468.0	2468.4	2469.2	2470.9	2472.9	2473.7	2475.0	2475.0	2474.1	2472.1	2469.6
2°	2466.4	2467.2	2468.4	2470.5	2472.9	2473.7	2475.4	2475.4	2474.6	2471.7	2469.2
2.5°	2464.3	2465.2	2467.2	2470.1	2472.9	2474.1	2475.8	2475.8	2474.6	2471.3	2468.0
3°	2461.9	2463.1	2465.6	2469.2	2472.5	2474.1	2475.8	2475.8	2474.1	2470.9	2466.8
3.5°	2459.4	2461.1	2463.9	2468.0	2472.1	2473.7	2475.8	2475.4	2473.7	2470.1	2465.6
4°	2456.6	2458.6	2462.3	2466.8	2471.3	2473.3	2475.4	2475.0	2472.9	2468.8	2463.9
4.5°	2453.3	2456.2	2460.2	2465.2	2470.5	2472.9	2474.6	2474.6	2472.1	2467.6	2462.3
5°	2450.0	2453.3	2457.8	2463.1	2469.2	2472.1	2473.7	2473.7	2470.9	2466.0	2460.2
5.5°	2446.8	2450.4	2455.3	2461.5	2467.6	2470.9	2472.9	2472.5	2469.6	2464.3	2457.8
6°	2442.7	2446.8	2452.5	2459.0	2466.0	2469.6	2471.7	2471.3	2468.0	2462.3	2455.3
6.5°	2439.0	2443.5	2449.2	2456.6	2464.3	2468.0	2470.1	2469.6	2466.0	2459.8	2452.5
7°	2434.5	2439.4	2445.9	2453.7	2462.3	2466.4	2468.4	2467.6	2463.9	2457.0	2449.2
7.5°	2430.0	2435.7	2442.7	2450.8	2459.4	2464.3	2466.4	2465.6	2461.5	2454.1	2445.9
8°	2425.1	2431.2	2439.0	2447.6	2457.0	2461.9	2464.3	2463.1	2458.6	2451.2	2442.7
8.5°	2419.8	2426.7	2434.9	2444.3	2454.1	2459.0	2461.9	2460.7	2455.7	2448.0	2438.6
9°	2414.5	2421.4	2430.4	2440.2	2450.8	2456.6	2459.0	2457.4	2452.5	2444.3	2434.5
9.5°	2409.1	2416.5	2425.9	2436.5	2447.6	2453.3	2456.2	2454.5	2449.2	2440.6	2430.0
10°	2403.0	2411.2	2421.4	2432.0	2443.9	2450.0	2452.9	2450.8	2445.5	2436.9	2425.5
10.5°	2396.9	2405.5	2416.1	2427.5	2440.2	2446.3	2449.2	2447.6	2441.4	2432.4	2420.6
11°	2390.3	2399.3	2411.2	2423.0	2435.7	2442.7	2445.5	2443.5	2437.3	2427.5	2415.7
11.5°	2383.4	2393.2	2405.5	2418.1	2431.2	2438.2	2441.4	2439.4	2432.9	2422.6	2410.4
12°	2376.4	2386.6	2399.7	2412.8	2426.7	2434.1	2437.3	2434.9	2428.4	2417.7	2404.6
12.5°	2369.1	2380.1	2393.6	2407.5	2421.8	2429.2	2432.4	2430.4	2423.0	2412.4	2398.9
13°	2361.7	2373.2	2387.1	2401.4	2416.5	2424.3	2427.5	2425.1	2418.1	2406.7	2392.8
13.5°	2353.9	2365.8	2380.5	2395.2	2410.8	2419.4	2422.6	2419.8	2412.4	2401.0	2386.2
14°	2345.8	2358.0	2374.0	2389.1	2405.0	2413.6	2417.3	2414.5	2406.7	2394.4	2379.7
14.5°	2337.2	2350.3	2366.6	2382.6	2398.9	2407.9	2411.6	2408.7	2400.5	2388.3	2372.3
15°	2328.2	2342.1	2359.3	2375.6	2392.8	2402.2	2405.9	2402.6	2394.0	2381.3	2365.4
15.5°	2319.2	2333.5	2351.1	2368.2	2386.2	2395.6	2399.7	2396.1	2387.5	2374.4	2358.0
16°	2309.8	2324.5	2343.3	2360.9	2379.3	2388.7	2393.2	2389.5	2380.1	2367.0	2349.8
16.5°	2300.0	2315.5	2335.1	2353.5	2371.9	2382.1	2386.6	2383.0	2373.2	2359.7	2342.1
17°	2289.7	2306.1	2326.9	2345.3	2364.2	2374.8	2379.7	2375.6	2365.4	2351.5	2333.5
17.5°	2279.5	2296.3	2318.0	2336.8	2356.8	2367.4	2372.3	2367.8	2357.6	2343.3	2324.9
18°	2268.5	2286.1	2308.5	2328.2	2348.2	2359.7	2365.0	2360.1	2349.4	2334.7	2315.9
18.5°	2257.8	2275.8	2298.7	2319.2	2340.0	2351.9	2356.8	2351.9	2340.9	2326.1	2306.9
19°	2246.4	2265.2	2289.3	2310.2	2331.0	2343.3	2348.6	2343.3	2331.9	2316.7	2296.7
19.5°	2234.5	2254.2	2279.1	2300.4	2321.6	2334.7	2340.4	2334.7	2322.9	2307.7	2287.3
20°	2222.7	2243.1	2268.9	2290.6	2312.2	2325.3	2331.4	2325.7	2313.5	2297.9	2277.5
20.5°	2210.4	2230.9	2258.3	2279.9	2302.8	2315.9	2322.5	2316.3	2303.6	2288.1	2266.8
21°	2197.7	2219.0	2247.2	2269.3	2292.2	2306.1	2313.0	2306.5	2293.8	2277.5	2256.2



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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°	2157.7	2181.0	2212.1	2236.2	2260.3	2275.4	2282.8	2275.8	2261.9	2245.6	2222.3
23°	2143.8	2167.9	2199.8	2224.3	2248.9	2264.4	2272.2	2265.2	2250.5	2233.3	2210.0
23.5°	2129.9	2154.4	2187.1	2212.1	2237.4	2253.4	2261.5	2254.2	2239.0	2221.5	2197.7
24°	2115.6	2140.9	2174.4	2199.8	2225.1	2241.9	2250.1	2242.7	2226.8	2209.6	2185.1
24.5°	2100.4	2126.6	2160.9	2187.1	2212.9	2230.0	2238.2	2230.9	2214.5	2197.3	2172.4
25°	2085.3	2112.3	2147.5	2174.0	2200.6	2217.8	2226.4	2218.6	2202.2	2184.7	2158.9
25.5°	2069.8	2097.2	2133.5	2160.5	2187.5	2205.5	2214.5	2206.3	2189.2	2171.6	2145.8
26°	2054.2	2082.4	2119.2	2147.0	2174.0	2192.4	2201.8	2193.2	2176.1	2158.1	2132.3
26.5°	2038.3	2067.3	2104.5	2133.1	2160.5	2179.3	2188.7	2180.2	2162.2	2144.6	2118.0
27°	2021.9	2051.8	2089.8	2119.2	2146.6	2165.8	2175.3	2166.7	2148.7	2130.7	2103.3
27.5°	2005.2	2035.0	2074.7	2104.9	2132.7	2152.4	2162.2	2153.2	2134.8	2116.8	2089.4
28°	1988.4	2019.1	2059.1	2090.2	2117.6	2138.0	2147.9	2138.9	2120.1	2101.7	2073.9
28.5°	1971.6	2002.7	2043.2	2074.7	2103.3	2123.7	2133.5	2125.0	2104.9	2087.3	2058.7
29°	1954.5	1986.4	2028.1	2059.5	2088.2	2109.0	2118.8	2109.8	2090.2	2071.8	2042.8
29.5°	1936.9	1969.2	2011.3	2044.0	2073.0	2094.3	2104.5	2095.1	2075.1	2057.5	2026.8
30°	1919.3	1952.8	1994.5	2028.1	2057.5	2078.8	2089.0	2080.0	2059.1	2040.7	2010.9
30.5°	1901.3	1935.2	1977.8	2012.1	2041.1	2063.6	2073.4	2064.9	2042.8	2025.2	1994.5
31°	1883.3	1917.7	1960.6	1995.8	2024.4	2048.1	2057.9	2048.5	2026.4	2008.4	1977.8
31.5°	1865.3	1899.7	1943.0	1979.0	2008.0	2032.1	2042.0	2032.6	2010.1	1992.1	1960.6
32°	1847.7	1881.7	1925.4	1962.2	1990.0	2015.4	2025.2	2016.6	1992.5	1975.7	1943.4
32.5°	1816.3	1863.3	1907.4	1945.1	1972.9	1999.0	2009.2	1999.8	1974.9	1958.5	1926.2
33°	1783.5	1844.9	1889.9	1927.5	1947.9	1981.9	1992.1	1982.7	1947.9	1941.0	1908.3
33.5°	1740.2	1826.9	1871.0	1909.5	1918.9	1964.7	1974.9	1965.5	1920.1	1924.2	1890.3
34°	1693.6	1809.3	1852.6	1890.7	1885.8	1946.3	1956.9	1947.9	1887.8	1905.4	1871.9
34.5°	1646.2	1779.0	1833.8	1872.7	1848.1	1928.3	1939.7	1928.3	1851.0	1885.8	1853.9
35°	1600.8	1746.3	1815.0	1846.1	1805.2	1907.8	1922.2	1907.0	1810.9	1860.8	1835.1
35.5°	1555.8	1705.9	1795.8	1817.5	1759.8	1876.8	1904.2	1876.8	1765.6	1832.6	1816.3
36°	1510.4	1660.5	1777.0	1786.0	1709.1	1849.0	1885.8	1849.8	1715.7	1802.8	1797.4
36.5°	1463.4	1615.9	1757.4	1749.2	1658.4	1813.0	1867.8	1815.4	1665.8	1767.2	1778.6
37°	1413.1	1571.3	1738.2	1709.1	1604.0	1772.9	1849.4	1777.4	1613.9	1727.9	1758.6
37.5°	1362.4	1526.8	1718.5	1665.8	1552.9	1729.6	1830.2	1736.5	1561.5	1686.6	1739.4
38°	1311.3	1481.8	1698.9	1618.4	1502.2	1683.4	1811.3	1691.5	1511.6	1640.4	1720.2
38.5°	1261.0	1436.8	1679.7	1569.3	1454.4	1634.7	1792.1	1644.1	1462.6	1592.6	1701.0
39°	1211.5	1390.2	1659.7	1521.0	1405.7	1584.4	1773.7	1594.6	1413.9	1543.5	1680.9
39.5°	1163.3	1342.0	1640.4	1472.4	1357.9	1532.5	1754.1	1545.2	1365.7	1494.5	1661.3
40°	1115.4	1291.3	1620.0	1423.3	1308.4	1483.0	1735.3	1495.7	1316.2	1445.8	1641.7
40.5°	1069.6	1241.8	1600.0	1377.1	1258.5	1435.2	1715.3	1447.9	1266.3	1398.4	1622.0
41°	1022.6	1193.9	1579.9	1331.3	1207.0	1388.6	1695.6	1400.0	1214.4	1352.2	1601.6
41.5°	976.4	1146.1	1561.1	1285.5	1156.3	1341.5	1674.8	1353.4	1163.7	1306.8	1580.7
42°	929.4	1099.5	1531.7	1240.5	1106.4	1294.5	1653.9	1306.8	1113.4	1261.0	1559.5
42.5°	883.6	1055.7	1500.6	1194.3	1058.2	1247.1	1633.9	1259.8	1064.3	1214.0	1534.9
43°	837.4	1009.9	1458.1	1146.1	1011.2	1198.4	1597.5	1211.1	1016.9	1166.5	1492.8
43.5°	794.5	965.0	1411.5	1099.9	964.1	1149.8	1561.5	1161.6	970.3	1118.3	1456.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	670.2	830.0	1256.1	962.1	827.6	1006.7	1430.3	1018.1	832.9	979.3	1300.7
45.5°	630.9	786.7	1203.7	919.2	781.8	961.3	1378.3	971.1	788.7	934.7	1245.9
46°	593.3	744.2	1148.6	876.2	738.0	916.3	1322.3	926.1	744.6	891.4	1190.3
46.5°	557.7	704.1	1093.4	833.3	695.9	870.9	1265.1	881.6	702.1	848.8	1134.6
47°	523.0	663.2	1038.2	791.2	655.0	826.8	1206.6	837.0	661.6	806.3	1079.4
47.5°	491.1	625.2	983.0	749.5	615.8	783.4	1147.3	793.2	622.3	764.6	1025.1
48°	462.0	588.0	929.4	708.6	579.0	740.9	1090.9	751.1	585.1	724.5	971.1
48.5°	436.7	552.0	879.1	669.3	543.4	699.2	1034.9	708.2	549.1	684.1	918.8
49°	414.2	517.2	830.8	631.3	509.9	657.5	982.5	667.3	515.2	646.0	868.1
49.5°	394.2	485.8	783.4	594.9	478.0	618.6	931.4	628.0	483.3	608.0	819.0
50°	375.4	455.5	737.2	558.1	448.1	580.6	881.6	590.0	453.0	572.0	772.0
50.5°	359.8	428.5	694.3	523.8	420.3	544.6	832.9	552.8	424.4	536.9	727.0
51°	344.7	404.0	652.6	491.5	394.6	510.7	785.5	518.5	398.7	504.6	682.4
51.5°	330.4	383.5	612.5	461.2	374.5	478.0	738.4	485.8	377.8	473.1	641.5
52°	315.7	364.7	573.7	432.2	354.1	447.7	694.3	454.3	356.5	444.0	601.9
52.5°	301.8	348.4	537.7	404.8	334.1	418.7	649.3	424.8	335.7	415.4	563.8
53°	287.9	332.8	503.3	379.4	313.6	392.9	606.8	397.0	314.4	388.8	528.3
53.5°	276.8	318.5	471.0	355.7	293.6	372.1	566.3	375.4	293.6	367.2	493.9
54°	268.2	304.6	441.2	334.5	277.6	350.8	530.3	353.7	277.6	345.5	462.4
54.5°	262.9	291.1	413.0	314.8	265.8	329.6	493.5	332.0	265.4	323.8	433.0
55°	258.4	276.8	387.2	296.4	259.2	308.3	460.4	310.3	259.2	302.2	406.0
55.5°	253.9	265.4	363.1	279.3	254.3	287.4	428.5	288.7	253.9	284.2	380.7
56°	249.4	256.0	341.8	263.7	249.8	270.7	399.9	271.5	249.4	268.2	360.6
56.5°	245.3	250.6	321.8	252.3	245.3	256.8	377.0	257.2	244.9	256.0	340.6
57°	241.2	246.1	303.8	246.1	240.8	248.2	353.7	247.8	240.8	249.0	320.6
57.5°	236.7	241.6	287.4	241.6	236.7	242.9	330.8	242.5	236.3	244.1	300.5
58°	232.7	237.6	274.0	237.2	232.2	238.4	307.5	238.0	232.2	239.6	284.6
58.5°	228.6	233.1	261.7	232.7	228.2	234.3	284.6	233.9	227.7	235.5	271.1
59°	224.5	229.0	250.6	228.6	224.1	229.8	268.6	229.8	223.7	231.0	259.2
59.5°	220.4	224.9	241.2	224.1	220.0	225.7	255.1	225.3	219.6	226.9	248.6
60°	216.3	220.8	233.1	220.0	215.5	221.6	243.7	221.2	215.5	222.8	239.2
60.5°	211.8	216.7	225.3	215.9	211.4	217.1	234.3	217.1	211.4	218.3	231.0
61°	207.7	212.6	218.3	211.4	207.7	213.0	225.3	213.0	206.9	214.3	223.7
61.5°	203.6	208.5	212.2	207.7	203.6	208.9	217.9	208.9	202.8	210.2	216.7
62°	199.5	204.4	206.5	203.6	199.5	205.3	211.0	204.9	198.7	206.1	210.6
62.5°	195.0	200.4	201.2	199.1	195.4	201.2	204.9	200.8	194.6	202.0	205.3
63°	190.9	196.3	196.7	195.0	191.4	197.1	199.5	196.3	190.1	197.5	199.9
63.5°	186.9	191.8	192.2	190.9	187.7	193.0	194.2	192.2	186.5	193.4	195.4
64°	182.8	187.7	187.7	186.9	183.6	188.9	190.1	188.1	182.4	189.3	191.4
64.5°	178.3	183.6	183.6	182.8	179.9	184.8	185.6	184.0	178.3	185.2	186.9
65°	174.2	179.5	179.5	179.1	175.8	181.1	181.5	179.9	174.2	181.1	182.8
65.5°	170.1	175.0	175.0	175.0	172.1	177.0	177.5	175.8	170.1	177.0	178.7
66°	166.0	170.9	170.9	170.9	168.1	173.0	173.0	171.7	166.0	173.0	174.2



TEST NUMBER: P776434

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	153.7	158.6	158.6	159.1	156.6	161.1	160.7	159.5	154.1	160.7	161.9
68°	149.7	154.6	154.6	155.0	152.9	157.4	156.6	155.4	150.1	156.2	157.8
68.5°	145.6	150.5	150.5	150.9	149.2	153.3	152.9	151.7	146.0	152.5	153.7
69°	141.5	146.4	146.4	148.8	145.6	149.7	148.8	147.6	142.3	148.4	149.7
69.5°	137.8	142.3	142.3	144.7	141.9	145.6	144.3	143.5	138.2	144.3	145.6
70°	133.7	138.2	138.2	140.7	137.8	141.9	140.7	139.4	134.5	140.2	141.5
70.5°	129.6	134.1	134.1	136.2	134.1	138.2	136.6	135.7	130.4	136.2	137.4
71°	125.9	130.4	130.0	132.1	130.4	134.1	132.5	131.7	126.8	132.1	133.3
71.5°	121.8	125.9	126.3	128.4	126.8	130.4	128.4	127.6	122.7	128.0	129.2
72°	117.8	122.3	122.3	124.3	123.1	126.3	124.3	123.9	119.0	124.3	125.1
72.5°	113.7	117.8	118.2	120.6	119.4	122.7	120.6	119.8	114.9	120.2	121.0
73°	109.6	114.1	114.1	116.5	115.7	119.0	116.5	115.7	111.2	116.1	116.9
73.5°	105.5	110.0	110.0	112.9	112.0	115.3	112.4	112.0	107.5	112.0	112.9
74°	101.4	105.9	105.9	108.8	108.4	111.2	108.8	107.9	103.4	108.4	108.8
74.5°	97.7	101.8	101.8	105.1	104.7	107.5	104.7	104.3	99.8	104.3	105.1
75°	93.6	97.7	98.1	101.4	101.0	103.9	101.0	100.2	96.1	100.2	101.0
75.5°	89.5	93.6	94.0	97.7	97.3	100.2	96.9	96.5	92.0	96.5	96.9
76°	85.9	89.5	90.0	93.6	93.6	96.5	92.8	92.4	88.3	92.4	92.8
76.5°	81.8	85.5	85.9	90.0	90.0	92.8	89.1	88.3	84.6	88.3	89.1
77°	77.7	81.4	81.8	86.3	86.7	89.1	85.5	84.6	81.0	84.6	85.0
77.5°	73.6	77.3	78.1	82.2	83.0	85.5	81.4	80.5	77.3	80.5	81.0
78°	69.9	73.2	74.0	78.5	79.3	81.4	77.7	76.9	73.6	76.5	77.3
78.5°	65.8	69.5	69.9	74.8	75.6	77.7	73.6	72.8	69.5	72.8	73.2
79°	61.7	65.4	66.2	70.7	72.0	74.0	69.9	69.1	65.8	68.7	69.1
79.5°	57.7	61.3	62.2	67.1	68.3	70.3	66.2	65.0	62.6	64.6	65.4
80°	54.0	57.2	58.1	63.0	65.0	66.6	62.2	61.3	58.5	60.9	61.3
80.5°	49.9	53.2	54.4	59.3	61.3	63.0	58.5	57.2	54.8	56.8	57.7
81°	46.2	49.1	50.3	55.6	57.7	58.9	54.8	53.6	51.1	53.2	53.6
81.5°	42.1	45.0	46.6	51.9	54.0	55.2	51.1	49.5	47.4	49.1	49.9
82°	38.4	41.3	42.5	48.2	50.7	51.5	47.4	45.8	43.8	45.0	45.8
82.5°	34.3	37.2	38.8	44.6	47.0	48.2	43.8	41.7	40.1	41.3	42.1
83°	30.7	33.1	35.2	40.9	43.8	44.6	40.5	38.0	36.4	37.2	38.4
83.5°	26.6	29.0	31.9	37.2	40.1	40.9	37.2	34.3	32.7	33.5	35.2
84°	22.9	24.9	28.2	33.5	36.4	37.2	33.9	30.3	29.0	29.4	31.9
84.5°	18.8	21.3	24.9	30.3	33.1	33.9	30.3	26.6	25.4	25.8	28.6
85°	15.1	17.2	22.1	26.6	29.4	30.3	27.0	22.9	22.1	21.7	25.4
85.5°	12.7	14.7	18.8	22.9	26.2	27.0	23.7	19.6	18.4	18.4	22.1
86°	10.2	12.3	15.9	19.6	22.5	23.3	20.9	16.8	14.7	15.1	18.8
86.5°	8.2	9.4	13.1	15.9	19.2	19.6	17.6	13.9	11.9	12.7	15.9
87°	5.7	7.0	9.8	12.7	15.5	16.4	14.7	11.4	9.8	10.2	12.7
87.5°	3.7	4.5	7.0	9.4	12.3	13.1	11.9	9.0	7.8	8.2	9.8
88°	1.6	2.5	4.1	6.1	9.0	9.8	9.0	7.0	6.1	6.1	7.0
88.5°	0.4	0.8	1.6	2.9	5.7	6.1	6.1	4.9	4.1	3.7	3.7



TEST NUMBER: P776434

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQMW-4000lm-5000K

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: P776434

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2471.3	2471.3	2471.3	2471.3	2471.3	2471.3
0.5°	2470.5	2469.6	2469.6	2470.5	2470.5	2471.3
1°	2469.6	2468.4	2468.0	2468.8	2468.8	2469.6
1.5°	2468.4	2466.8	2466.0	2466.4	2467.2	2468.0
2°	2467.2	2464.7	2463.9	2464.3	2465.2	2466.4
2.5°	2466.0	2463.1	2461.9	2461.9	2462.7	2464.3
3°	2464.3	2461.1	2459.0	2459.0	2460.2	2461.9
3.5°	2462.3	2459.0	2456.6	2456.6	2457.4	2459.4
4°	2460.2	2456.2	2453.7	2453.3	2454.1	2456.6
4.5°	2457.8	2453.3	2450.4	2450.0	2450.8	2453.3
5°	2455.3	2450.4	2446.8	2446.3	2447.6	2450.0
5.5°	2452.5	2446.8	2443.5	2442.3	2443.9	2446.8
6°	2449.6	2442.7	2439.8	2438.6	2439.8	2442.7
6.5°	2446.3	2439.0	2435.3	2434.5	2435.3	2439.0
7°	2442.7	2434.9	2430.8	2429.6	2430.8	2434.5
7.5°	2438.6	2430.4	2426.3	2424.7	2426.3	2430.0
8°	2434.5	2425.5	2421.4	2419.8	2421.0	2425.1
8.5°	2430.4	2420.6	2416.1	2414.5	2416.1	2419.8
9°	2425.5	2415.3	2410.4	2408.7	2410.4	2414.5
9.5°	2420.6	2409.5	2404.6	2403.0	2404.2	2409.1
10°	2415.7	2403.8	2398.5	2396.9	2398.5	2403.0
10.5°	2410.0	2397.7	2392.8	2390.7	2392.4	2396.9
11°	2404.2	2391.6	2385.8	2384.2	2385.4	2390.3
11.5°	2398.5	2385.0	2378.9	2377.2	2378.9	2383.4
12°	2392.4	2378.1	2372.3	2369.9	2371.5	2376.4
12.5°	2385.8	2371.1	2365.0	2362.5	2364.2	2369.1
13°	2378.9	2363.3	2357.2	2354.8	2356.0	2361.7
13.5°	2371.9	2355.6	2349.4	2347.0	2348.2	2353.9
14°	2365.0	2347.4	2341.3	2338.8	2340.0	2345.8
14.5°	2357.2	2339.2	2332.7	2330.6	2331.4	2337.2
15°	2349.0	2330.6	2324.1	2321.6	2322.5	2328.2
15.5°	2340.9	2321.6	2315.1	2312.6	2313.5	2319.2
16°	2332.3	2312.2	2305.7	2303.2	2303.6	2309.8
16.5°	2323.3	2302.8	2295.9	2293.8	2293.8	2300.0
17°	2314.3	2293.0	2286.1	2283.6	2284.0	2289.7
17.5°	2304.9	2283.2	2275.8	2273.4	2273.8	2279.5
18°	2295.5	2272.6	2265.2	2262.8	2262.8	2268.5
18.5°	2285.2	2261.9	2254.6	2251.7	2251.7	2257.8
19°	2275.0	2250.5	2243.1	2240.7	2240.3	2246.4
19.5°	2264.4	2239.0	2231.7	2229.2	2228.8	2234.5
20°	2253.4	2227.6	2219.8	2218.2	2217.0	2222.7
20.5°	2242.3	2215.3	2207.6	2205.9	2204.7	2210.4
21°	2230.5	2203.5	2195.3	2193.7	2192.0	2197.7



TEST NUMBER: P776434

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2194.1	2164.6	2156.4	2154.8	2152.4	2157.7
23°	2181.4	2150.7	2143.0	2141.3	2138.5	2143.8
23.5°	2168.3	2136.8	2128.6	2127.4	2124.6	2129.9
24°	2154.8	2122.5	2114.7	2113.1	2109.8	2115.6
24.5°	2141.3	2107.8	2100.4	2098.4	2095.1	2100.4
25°	2127.4	2092.7	2086.1	2084.1	2080.4	2085.3
25.5°	2113.1	2077.5	2070.2	2068.9	2065.3	2069.8
26°	2098.4	2062.4	2055.5	2053.8	2049.7	2054.2
26.5°	2083.7	2046.9	2039.9	2038.3	2033.8	2038.3
27°	2068.1	2030.9	2024.0	2022.7	2017.8	2021.9
27.5°	2052.6	2014.2	2008.0	2006.4	2001.5	2005.2
28°	2037.1	1997.8	1991.3	1989.6	1985.1	1988.4
28.5°	2021.5	1980.6	1974.5	1972.9	1968.0	1971.6
29°	2004.8	1963.9	1957.7	1956.1	1951.2	1954.5
29.5°	1988.4	1946.7	1940.6	1938.9	1934.0	1936.9
30°	1971.2	1929.1	1923.4	1921.3	1916.4	1919.3
30.5°	1954.0	1910.7	1905.4	1903.3	1898.8	1901.3
31°	1936.5	1892.3	1887.8	1885.4	1880.9	1883.3
31.5°	1919.7	1873.1	1869.0	1867.0	1862.5	1865.3
32°	1901.7	1855.1	1850.6	1848.6	1844.5	1847.7
32.5°	1883.7	1824.4	1832.2	1829.7	1826.1	1816.3
33°	1865.3	1791.7	1813.4	1811.3	1807.3	1783.5
33.5°	1846.5	1746.7	1792.9	1792.1	1788.0	1740.2
34°	1826.9	1700.1	1775.0	1772.9	1770.5	1693.6
34.5°	1808.5	1653.1	1741.4	1753.3	1749.2	1646.2
35°	1779.5	1606.5	1709.5	1733.7	1713.2	1600.8
35.5°	1747.2	1561.1	1663.7	1714.0	1679.7	1555.8
36°	1705.4	1515.7	1622.0	1694.4	1636.8	1510.4
36.5°	1659.2	1468.3	1576.7	1674.8	1591.4	1463.4
37°	1615.5	1418.8	1532.9	1654.3	1547.2	1413.1
37.5°	1569.7	1368.1	1488.3	1634.3	1504.7	1362.4
38°	1524.7	1315.4	1445.0	1614.3	1461.8	1311.3
38.5°	1480.2	1264.3	1400.4	1594.2	1417.6	1261.0
39°	1436.4	1214.8	1354.2	1574.2	1373.8	1211.5
39.5°	1387.7	1166.1	1305.6	1553.8	1327.2	1163.3
40°	1339.1	1119.1	1257.7	1533.3	1279.8	1115.4
40.5°	1288.8	1073.3	1209.9	1512.9	1232.0	1069.6
41°	1241.0	1026.7	1161.6	1492.8	1184.1	1022.6
41.5°	1191.1	979.3	1114.6	1471.2	1138.3	976.4
42°	1143.6	932.3	1072.1	1439.7	1093.8	929.4
42.5°	1097.8	886.9	1028.7	1405.7	1050.8	883.6
43°	1054.1	840.7	984.2	1355.9	1006.7	837.4
43.5°	1007.5	797.7	941.2	1306.8	962.9	794.5

TEST NUMBER: P776434

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	874.6	673.8	809.6	1141.6	832.1	670.2
45.5°	828.8	633.8	769.5	1090.5	791.2	630.9
46°	785.9	596.2	728.2	1041.0	750.3	593.3
46.5°	743.8	559.8	689.4	992.8	710.2	557.7
47°	703.3	525.4	650.1	944.5	671.4	523.0
47.5°	663.6	493.5	613.3	896.3	634.2	491.1
48°	625.2	464.1	576.5	848.4	596.6	462.0
48.5°	588.0	438.3	541.8	803.5	561.4	436.7
49°	552.0	415.4	509.5	759.7	527.9	414.2
49.5°	518.1	395.4	479.2	717.6	496.4	394.2
50°	485.3	377.8	449.8	676.3	465.3	375.4
50.5°	455.1	361.0	424.8	639.1	438.3	359.8
51°	428.1	345.9	401.5	603.1	413.8	344.7
51.5°	404.4	331.6	381.5	568.3	392.1	330.4
52°	383.5	317.7	363.5	535.6	372.5	315.7
52.5°	365.1	303.4	347.6	504.2	355.3	301.8
53°	350.0	289.5	332.8	474.3	339.4	287.9
53.5°	334.9	277.6	318.1	446.5	324.7	276.8
54°	319.7	268.6	304.2	419.9	310.3	268.2
54.5°	305.0	262.9	290.3	395.4	296.8	262.9
55°	291.1	258.4	276.8	372.9	282.9	258.4
55.5°	276.8	253.9	265.8	351.6	270.3	253.9
56°	265.0	249.8	257.2	332.4	260.0	249.4
56.5°	255.6	245.3	252.3	315.2	253.9	245.3
57°	249.8	241.2	247.8	298.9	249.0	241.2
57.5°	245.3	236.7	243.3	284.2	244.5	236.7
58°	241.2	232.7	239.2	271.1	240.4	232.7
58.5°	236.7	228.6	234.7	259.2	235.9	228.6
59°	232.7	224.5	230.6	249.4	231.8	224.5
59.5°	228.6	220.4	226.5	240.4	227.7	220.4
60°	224.5	216.3	222.4	232.2	223.2	216.3
60.5°	220.4	212.2	218.3	225.3	219.2	211.8
61°	216.3	208.1	214.3	218.8	215.1	207.7
61.5°	212.2	204.4	210.2	212.6	211.0	203.6
62°	208.1	200.4	206.1	207.3	206.5	199.5
62.5°	204.0	196.3	202.0	202.4	202.4	195.0
63°	199.9	192.6	197.9	198.3	198.3	190.9
63.5°	195.9	188.5	193.8	193.8	193.8	186.9
64°	191.8	184.4	189.7	189.7	189.7	182.8
64.5°	187.7	180.7	185.6	185.2	185.2	178.3
65°	184.0	176.6	181.5	181.1	181.1	174.2
65.5°	179.9	173.0	177.5	176.6	176.6	170.1
66°	175.8	168.9	173.4	172.5	172.5	166.0



TEST NUMBER: P776434

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	164.0	157.4	161.5	160.3	159.9	153.7
68°	159.9	153.3	157.4	156.2	155.4	149.7
68.5°	155.8	149.7	153.3	151.7	151.3	145.6
69°	151.7	146.0	149.7	146.8	149.2	141.5
69.5°	148.0	142.3	145.6	143.1	144.7	137.8
70°	143.9	138.6	141.9	139.0	140.2	133.7
70.5°	139.8	134.5	137.8	135.3	135.3	129.6
71°	136.2	130.8	133.7	131.7	130.8	125.9
71.5°	132.1	127.2	130.0	127.2	126.8	121.8
72°	128.4	123.5	125.9	123.1	122.7	117.8
72.5°	124.3	119.4	122.3	119.0	118.6	113.7
73°	120.2	115.7	118.2	114.9	114.1	109.6
73.5°	116.5	111.6	114.1	110.8	110.0	105.5
74°	112.4	107.9	110.0	106.7	105.9	101.4
74.5°	108.8	104.3	106.3	102.6	101.8	97.7
75°	104.7	100.6	102.2	98.5	97.7	93.6
75.5°	101.0	96.5	98.1	94.5	93.6	89.5
76°	96.9	92.8	94.5	90.4	89.1	85.9
76.5°	93.2	89.1	90.4	86.3	85.0	81.8
77°	89.1	85.5	86.7	82.2	81.0	77.7
77.5°	85.5	81.4	82.6	78.1	76.9	73.6
78°	81.4	77.7	78.5	74.0	72.8	69.9
78.5°	77.7	74.0	74.8	69.9	68.7	65.8
79°	73.6	69.9	70.7	65.8	64.6	61.7
79.5°	69.5	66.2	66.6	61.7	60.5	57.7
80°	65.8	62.6	62.6	58.1	56.0	54.0
80.5°	61.7	58.9	58.9	54.0	51.9	49.9
81°	58.1	55.2	54.8	50.3	47.8	46.2
81.5°	54.0	51.5	51.1	46.2	43.8	42.1
82°	50.3	47.4	47.0	42.5	39.7	38.4
82.5°	46.6	43.8	43.3	38.8	35.6	34.3
83°	42.9	40.1	39.7	35.2	31.5	30.7
83.5°	39.3	36.4	35.6	31.5	27.4	26.6
84°	35.2	32.7	31.9	28.2	23.7	22.9
84.5°	31.5	29.0	28.2	24.5	20.4	18.8
85°	27.8	25.4	24.5	21.3	17.2	15.1
85.5°	24.1	21.7	20.4	18.0	14.3	12.7
86°	20.4	18.0	16.8	14.7	11.9	10.2
86.5°	16.8	14.3	13.5	11.4	9.4	8.2
87°	13.5	11.0	10.2	8.2	6.5	5.7
87.5°	9.8	7.8	7.0	5.3	4.1	3.7
88°	6.5	4.1	3.7	2.0	1.6	1.6
88.5°	2.9	0.8	0.4	0.4	0.4	0.4



TEST NUMBER: P776434

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQMW-4000lm-5000K

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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Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





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

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Peachtree City, GA 30269

Scaled Data Report



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Peachtree City, GA 30269

Scaled Data Report





21.5°	2184.2	2206.7	2235.8	2258.7	2281.6	2296.3	2302.8	2296.3	2283.2	2266.8	2245.2
22°	2171.2	2194.1	2223.9	2247.6	2270.9	2286.1	2293.0	2286.5	2272.6	2256.2	2233.7



44°	751.1	918.8	1361.2	1052.9	917.5	1100.3	1523.9	1112.6	923.7	1070.9	1406.6
44.5°	710.2	874.6	1310.1	1007.5	872.1	1052.9	1478.1	1064.7	878.3	1024.7	1354.2



66.5°	161.9	166.8	166.8	166.8	164.4	168.9	168.9	167.6	161.9	168.9	170.1
67°	157.8	162.7	162.7	163.1	160.7	165.2	164.8	163.6	157.8	164.8	166.0



89°	0.0	0.4	0.4	0.8	2.5	3.3	3.3	2.5	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°	2218.6	2190.8	2182.6	2181.0	2178.9	2184.2
22°	2206.7	2177.7	2169.5	2168.3	2166.3	2171.2



44°	962.5	754.0	896.7	1247.9	919.2	751.1
44.5°	917.9	713.9	853.3	1195.2	875.8	710.2

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66.5°	171.7	165.2	169.3	168.5	168.1	161.9
67°	167.6	161.1	165.6	164.4	164.0	157.8

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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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Scaled Data Report



(END OF REPORT)