

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: P776534

Luminaire Tested: HCDJBL3040CSD-HCD8TSQMW-4000lm-5000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776534
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-HCD8TSQMW-4000lm-5000K
Description: 8 INCH SQUARE MEDIUM MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT
Ballast/Driver: -

Summary

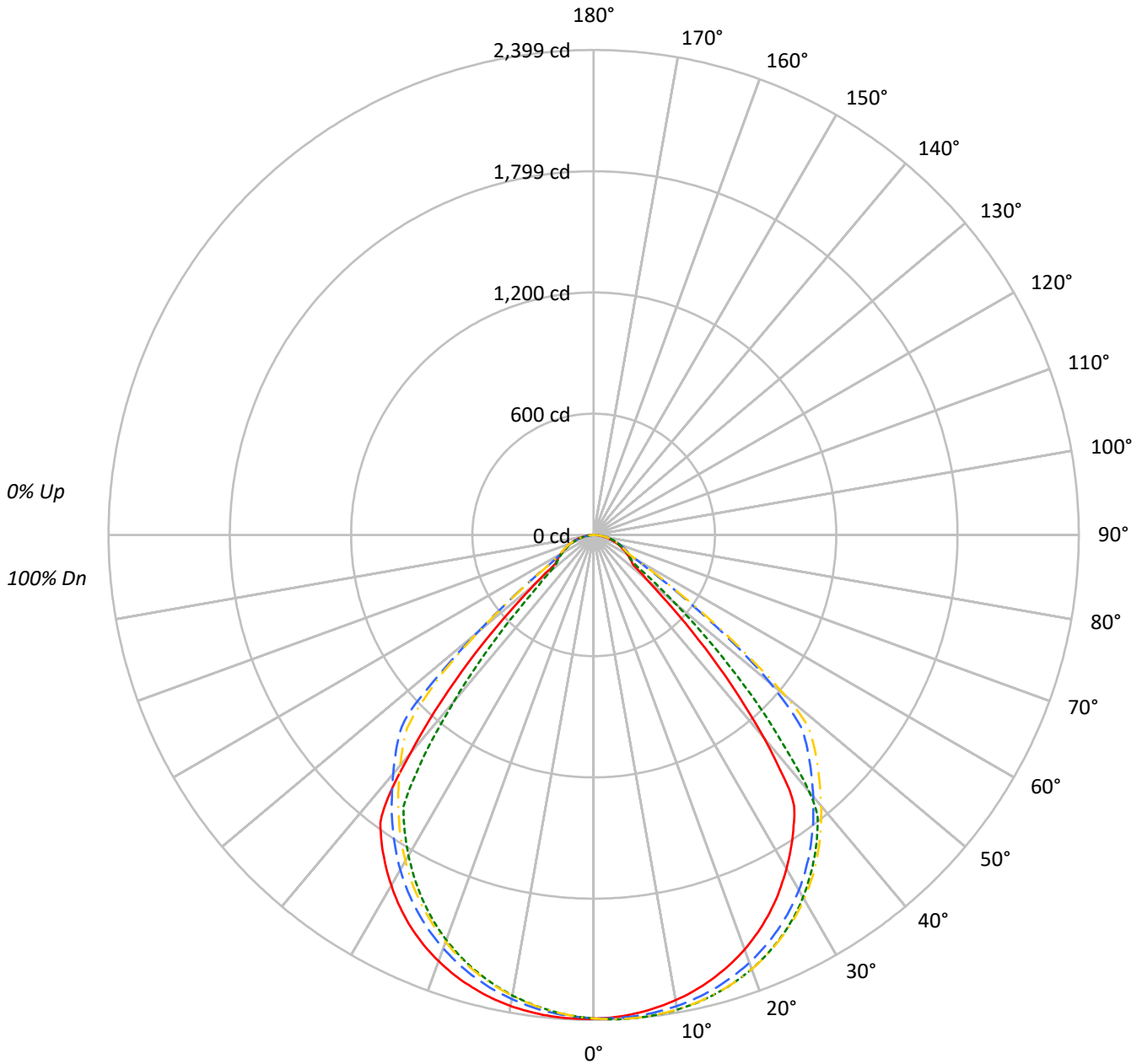
Lumens per Lamp: N/A
Luminaire Lumens: 4331.9 lumens
Efficiency: N/A
Efficacy: 112.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.29
Luminous Opening: Rectangular (W 0.67' x L: 0.67' x H: 0')
CIE Type: Direct

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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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								
1	111	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	91	89								
2	104	97	92	88	101	96	91	87	92	88	85	89	86	83	86	84	81	79								
3	97	88	82	77	94	87	81	76	84	79	75	81	77	73	79	75	72	70								
4	90	80	73	68	88	79	72	67	77	71	66	75	70	66	73	68	65	63								
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56								
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51								
7	73	62	54	49	72	61	54	49	60	53	48	58	52	48	57	52	48	46								
8	69	57	50	44	67	56	49	44	55	49	44	54	48	44	53	48	44	42								
9	65	53	45	41	63	52	45	40	51	45	40	50	44	40	49	44	40	38								
10	61	49	42	37	60	49	42	37	48	41	37	47	41	37	46	41	37	35								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	57352	57352	57352	57352
5°	57198	57739	57542	56911
10°	56902	58049	57611	56325
15°	56423	58270	57528	55510
20°	55692	58310	57235	54398
25°	54510	58047	56608	52811
30°	52801	57339	55403	50697
35°	50568	55977	53621	47948
40°	40971	51926	44170	33640
45°	24951	35721	28031	18491
50°	12795	19488	14302	10445
55°	9552	9979	9314	8938
60°	9232	9510	8978	8608
65°	8931	9345	8698	8301
70°	8658	9226	8399	7936
75°	8218	9237	8032	7384
80°	7401	9376	7401	6380
85°	5282	10014	5860	3714

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 135°

Vertical Angle: 45°

Luminance: 52789 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	226.3	5.2
10°-20°	646.9	14.9
20°-30°	967.1	22.3
30°-40°	1109.7	25.6
40°-50°	805.8	18.6
50°-60°	295.3	6.8
60°-70°	158.4	3.7
70°-80°	95.7	2.2
80°-90°	26.8	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°	1840.3	42.5
0°-40°	2949.9	68.1
0°-60°	4051.0	93.5
0°-90°	4331.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4331.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2392	2392	2392	2392	2392	
5°	2376	2399	2391	2364	2376	226
15°	2273	2347	2317	2236	2273	641
25°	2060	2194	2140	1996	2060	947
35°	1728	1912	1832	1638	1728	1055
45°	736	1053	827	545	736	580
55°	228	239	223	214	228	214
65°	157	165	153	146	157	156
75°	89	100	87	80	89	93
85°	19	36	21	14	19	24
90°	0	6	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°	2391.8	2391.8	2391.8	2391.8	2391.8	2391.8	2391.8	2391.8	2391.8	2391.8	2391.8
0.5°	2392.6	2393.0	2391.8	2391.4	2393.5	2393.5	2393.5	2394.3	2394.3	2393.0	2389.8
1°	2391.8	2392.6	2392.2	2392.6	2395.1	2394.7	2394.7	2395.1	2394.7	2392.6	2388.5
1.5°	2390.6	2392.2	2392.6	2393.5	2396.3	2395.9	2395.9	2395.9	2394.7	2392.2	2387.3
2°	2389.4	2391.4	2392.6	2393.9	2397.1	2397.1	2396.7	2396.3	2394.7	2391.8	2386.1
2.5°	2387.3	2390.6	2392.6	2394.7	2398.0	2398.0	2397.5	2396.3	2394.7	2391.0	2384.1
3°	2385.7	2389.4	2392.2	2395.1	2398.8	2398.8	2398.0	2396.3	2394.3	2390.2	2382.4
3.5°	2384.1	2388.1	2391.8	2395.1	2398.8	2399.2	2398.4	2396.7	2393.9	2389.0	2380.0
4°	2381.6	2386.5	2391.4	2395.1	2398.8	2399.2	2398.8	2396.3	2393.0	2387.3	2377.5
4.5°	2379.1	2384.9	2390.2	2394.3	2398.8	2399.2	2398.4	2395.9	2391.8	2385.7	2375.1
5°	2376.3	2382.8	2389.4	2393.9	2398.8	2399.2	2398.4	2395.1	2390.6	2383.6	2372.2
5.5°	2373.4	2380.8	2387.7	2393.0	2398.4	2398.4	2397.5	2394.3	2389.0	2381.2	2369.3
6°	2370.2	2378.3	2386.5	2392.2	2397.5	2398.0	2396.7	2393.0	2387.3	2379.1	2366.1
6.5°	2367.3	2375.5	2384.5	2391.0	2396.7	2397.1	2395.9	2391.8	2385.3	2376.7	2362.8
7°	2363.6	2372.6	2382.8	2389.8	2395.5	2396.3	2394.7	2390.2	2383.2	2373.8	2358.7
7.5°	2359.5	2369.7	2380.4	2388.1	2394.3	2395.5	2393.5	2388.5	2380.8	2371.0	2355.0
8°	2355.4	2366.5	2378.3	2386.5	2392.6	2393.9	2391.8	2386.5	2378.3	2367.7	2350.5
8.5°	2351.3	2362.8	2375.5	2384.1	2391.0	2392.2	2390.2	2384.5	2375.5	2364.0	2346.0
9°	2346.9	2359.1	2372.6	2382.0	2389.0	2390.6	2388.1	2382.0	2372.6	2360.3	2341.5
9.5°	2341.9	2355.0	2369.7	2379.6	2386.9	2388.1	2386.1	2379.6	2369.3	2356.3	2336.6
10°	2337.0	2350.5	2366.9	2377.1	2384.1	2386.1	2383.2	2376.3	2366.1	2352.2	2331.7
10.5°	2331.7	2346.0	2363.2	2374.2	2381.6	2383.6	2380.8	2373.0	2362.0	2348.1	2326.0
11°	2326.4	2341.5	2359.5	2371.0	2378.7	2381.2	2377.9	2369.7	2357.9	2343.2	2320.3
11.5°	2320.7	2336.6	2355.0	2367.7	2375.9	2377.9	2374.6	2366.1	2353.8	2338.7	2314.6
12°	2314.6	2331.3	2351.3	2364.0	2372.6	2374.6	2371.4	2362.4	2349.7	2333.4	2308.8
12.5°	2308.0	2326.0	2346.9	2360.3	2368.9	2371.4	2368.1	2358.7	2344.8	2327.6	2302.3
13°	2301.9	2319.9	2342.4	2356.3	2365.2	2367.7	2364.0	2354.2	2339.9	2321.9	2295.8
13.5°	2294.9	2314.1	2337.5	2352.2	2361.2	2364.0	2359.9	2349.7	2334.6	2316.2	2288.8
14°	2288.0	2307.6	2332.5	2347.7	2356.7	2359.5	2355.8	2344.8	2329.3	2310.1	2281.4
14.5°	2280.6	2301.5	2327.2	2343.2	2352.2	2355.4	2351.3	2339.9	2323.6	2303.9	2274.1
15°	2272.9	2294.5	2321.5	2337.9	2347.3	2350.9	2346.4	2334.6	2317.4	2297.0	2266.7
15.5°	2265.1	2287.6	2315.8	2332.5	2342.4	2345.6	2341.9	2329.3	2311.3	2290.4	2259.0
16°	2256.9	2279.8	2309.7	2327.2	2337.0	2340.7	2336.6	2323.6	2304.7	2283.1	2250.8
16.5°	2248.7	2272.9	2303.1	2321.5	2331.7	2335.4	2330.9	2317.4	2298.2	2275.7	2242.2
17°	2240.2	2265.1	2296.6	2315.4	2325.6	2329.7	2325.2	2311.3	2291.3	2268.4	2233.6
17.5°	2231.2	2256.9	2290.0	2309.2	2319.5	2324.0	2319.1	2304.7	2283.9	2260.6	2224.6
18°	2222.2	2248.7	2282.7	2302.7	2313.3	2317.8	2313.3	2297.4	2276.1	2252.4	2215.6
18.5°	2212.4	2240.2	2275.3	2296.2	2306.8	2311.3	2306.8	2290.8	2268.4	2243.8	2205.8
19°	2202.6	2231.2	2268.0	2288.8	2299.8	2304.7	2299.8	2283.1	2260.2	2235.3	2196.0
19.5°	2192.7	2221.8	2259.8	2281.4	2292.5	2297.8	2292.9	2276.1	2252.0	2226.3	2186.2
20°	2182.5	2212.4	2251.6	2274.1	2285.1	2290.8	2285.5	2267.5	2243.0	2217.3	2176.0
20.5°	2171.5	2202.6	2243.4	2266.3	2277.4	2283.1	2278.2	2259.8	2234.0	2207.9	2165.4
21°	2160.4	2192.7	2234.8	2258.1	2269.6	2275.7	2270.0	2251.2	2225.0	2197.6	2154.3

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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°	2125.3	2160.9	2206.6	2232.0	2243.4	2250.4	2245.1	2224.2	2195.6	2166.6	2120.8
23°	2113.0	2149.4	2196.8	2223.0	2234.4	2241.4	2236.5	2214.8	2185.0	2155.5	2108.9
23.5°	2100.4	2138.0	2187.0	2213.2	2224.6	2232.4	2227.1	2205.0	2173.9	2144.1	2096.7
24°	2087.3	2125.7	2176.4	2203.4	2215.2	2223.0	2217.3	2194.4	2163.3	2132.6	2084.4
24.5°	2074.2	2113.4	2165.8	2193.6	2205.0	2213.2	2207.9	2184.2	2151.5	2120.8	2071.3
25°	2060.3	2100.8	2154.7	2182.5	2194.0	2203.0	2197.6	2173.5	2139.6	2108.5	2058.7
25.5°	2046.4	2087.7	2143.7	2171.9	2183.7	2192.3	2187.4	2162.5	2127.7	2095.9	2045.2
26°	2032.5	2074.6	2131.8	2160.9	2172.3	2182.1	2176.8	2151.0	2115.1	2083.2	2031.7
26.5°	2017.8	2061.1	2120.4	2149.4	2160.9	2171.1	2165.8	2138.8	2102.0	2069.7	2017.8
27°	2003.1	2047.2	2108.5	2138.0	2149.0	2158.8	2154.7	2126.5	2088.5	2056.2	2003.5
27.5°	1987.1	2032.9	2095.9	2126.1	2136.7	2147.4	2143.3	2114.3	2075.0	2042.3	1989.2
28°	1972.0	2018.6	2082.8	2113.4	2124.1	2135.5	2131.4	2101.6	2061.1	2028.0	1974.9
28.5°	1955.2	2003.9	2070.1	2101.2	2111.0	2122.8	2119.2	2088.1	2046.8	2013.3	1959.3
29°	1940.1	1988.8	2056.6	2087.7	2098.7	2109.8	2106.9	2075.0	2031.7	1998.6	1944.2
29.5°	1922.9	1973.2	2043.1	2074.6	2084.0	2096.7	2094.2	2060.7	2017.0	1982.6	1928.3
30°	1907.0	1957.3	2029.2	2061.1	2070.9	2083.2	2080.7	2046.8	2001.0	1967.5	1912.7
30.5°	1889.4	1941.3	2015.3	2047.2	2055.4	2069.3	2067.7	2032.1	1985.9	1951.6	1896.0
31°	1873.1	1925.4	2000.6	2032.5	2041.9	2055.4	2053.8	2017.4	1969.9	1935.2	1879.6
31.5°	1855.5	1908.2	1985.5	2018.2	2025.5	2040.3	2039.9	2002.2	1954.0	1918.9	1862.8
32°	1838.3	1891.5	1970.4	2003.1	2010.0	2026.0	2025.1	1986.7	1937.7	1902.5	1845.7
32.5°	1819.9	1874.7	1954.8	1987.5	1994.5	2010.4	2010.4	1971.2	1920.9	1885.7	1827.7
33°	1802.8	1857.9	1938.5	1972.0	1978.9	1995.3	1995.3	1955.2	1903.7	1869.0	1810.1
33.5°	1784.4	1840.4	1922.9	1956.5	1962.2	1979.4	1979.8	1939.3	1886.6	1852.2	1792.1
34°	1766.0	1823.2	1906.2	1940.1	1945.4	1963.0	1963.8	1922.5	1869.0	1835.0	1773.7
34.5°	1745.9	1805.2	1889.4	1923.8	1928.7	1946.6	1947.9	1906.2	1850.2	1817.5	1755.3
35°	1727.5	1787.2	1872.2	1907.0	1912.3	1930.7	1931.5	1889.4	1831.8	1799.5	1736.5
35.5°	1708.3	1768.8	1855.1	1890.2	1893.9	1913.9	1914.4	1872.7	1813.0	1781.1	1717.7
36°	1688.3	1750.4	1837.1	1873.1	1876.3	1896.8	1897.2	1855.1	1793.8	1762.7	1698.5
36.5°	1667.4	1731.2	1819.5	1856.3	1857.5	1880.0	1879.6	1837.1	1772.5	1743.9	1678.9
37°	1632.3	1712.0	1801.5	1838.7	1838.7	1862.0	1862.0	1818.7	1741.4	1724.3	1659.7
37.5°	1590.2	1692.8	1783.1	1820.7	1819.5	1844.0	1843.6	1800.3	1702.6	1705.1	1639.6
38°	1533.8	1672.8	1764.7	1802.8	1799.9	1825.2	1825.6	1781.1	1654.4	1684.2	1620.0
38.5°	1477.4	1652.3	1745.5	1784.4	1777.8	1806.8	1806.8	1762.3	1597.5	1660.9	1600.8
39°	1422.6	1621.7	1726.7	1766.0	1746.3	1787.6	1788.4	1742.7	1537.5	1622.9	1581.2
39.5°	1367.0	1580.8	1707.9	1746.8	1707.5	1768.0	1769.2	1720.6	1474.5	1580.8	1561.6
40°	1308.9	1527.2	1688.7	1727.1	1658.9	1748.0	1749.6	1684.6	1411.1	1530.5	1542.4
40.5°	1248.4	1471.2	1669.5	1707.1	1603.7	1726.3	1730.0	1648.2	1351.0	1474.5	1523.6
41°	1186.7	1417.7	1649.9	1687.1	1541.1	1692.4	1711.2	1600.4	1293.4	1418.9	1504.3
41.5°	1125.8	1363.7	1630.7	1665.4	1477.8	1654.8	1691.6	1547.3	1234.5	1356.4	1485.1
42°	1067.8	1307.3	1611.0	1636.4	1414.0	1609.0	1672.4	1489.6	1175.3	1299.1	1465.5
42.5°	1012.6	1248.4	1591.4	1598.8	1353.5	1554.6	1653.1	1429.1	1113.9	1243.5	1446.3
43°	955.7	1190.0	1572.2	1554.2	1294.6	1495.8	1633.5	1370.3	1053.4	1190.8	1426.7
43.5°	899.3	1131.1	1552.2	1503.9	1235.4	1433.6	1614.7	1313.0	993.4	1132.8	1406.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	735.8	960.7	1493.3	1331.0	1053.4	1255.4	1556.7	1142.6	826.6	964.7	1343.7
45.5°	683.9	906.7	1473.3	1273.4	992.1	1198.6	1536.6	1084.1	771.4	906.3	1310.6
46°	635.3	852.3	1452.8	1219.0	935.3	1140.5	1516.6	1026.1	719.1	854.4	1271.3
46.5°	587.4	797.1	1432.4	1164.6	879.7	1080.4	1496.6	967.2	667.1	800.8	1216.6
47°	540.8	743.6	1411.1	1108.6	824.1	1020.3	1476.1	911.6	617.7	752.6	1149.1
47.5°	498.7	692.5	1373.5	1052.2	769.3	961.5	1454.9	857.6	569.9	699.8	1081.7
48°	458.3	643.0	1334.3	995.8	715.0	906.3	1432.8	805.3	527.3	652.4	1012.6
48.5°	422.3	595.6	1285.2	939.0	663.5	851.9	1398.9	751.8	485.2	604.2	945.9
49°	391.6	549.0	1237.0	886.7	613.6	797.1	1351.9	699.8	446.8	557.6	881.8
49.5°	365.5	505.7	1187.9	832.3	566.6	744.0	1299.9	649.6	410.4	515.5	818.4
50°	343.0	464.0	1140.5	783.2	522.4	690.9	1236.6	600.9	383.4	476.2	755.8
50.5°	324.2	426.0	1089.0	732.5	481.6	639.8	1169.1	555.1	356.9	437.4	696.6
51°	306.6	392.4	1029.3	682.3	442.3	591.1	1098.0	510.2	330.3	401.8	641.4
51.5°	289.0	365.5	968.8	631.6	406.7	544.5	1026.5	469.7	303.7	373.6	589.9
52°	271.8	341.7	905.5	585.8	378.5	500.8	957.0	431.7	277.2	345.4	540.0
52.5°	256.7	321.7	840.5	540.4	349.9	459.9	888.7	402.2	256.3	317.6	494.6
53°	245.7	303.3	777.5	498.7	321.7	421.5	825.8	372.8	241.6	289.4	453.3
53.5°	240.4	286.6	716.6	457.8	293.5	392.4	765.7	343.4	235.1	266.9	415.3
54°	235.9	269.4	659.0	421.9	272.3	363.4	706.8	313.9	230.6	246.9	386.7
54.5°	232.2	253.0	603.4	385.9	252.2	334.4	649.2	284.5	226.5	232.2	358.5
55°	228.5	240.0	554.3	354.8	238.7	305.4	594.0	263.7	222.8	225.7	330.7
55.5°	224.4	232.2	507.7	326.2	232.6	276.3	542.1	243.6	218.7	221.2	302.5
56°	220.7	227.7	462.3	300.5	228.5	254.7	493.8	228.1	215.0	217.5	274.7
56.5°	217.1	224.0	421.5	276.7	224.4	235.9	452.1	221.6	211.3	213.4	256.3
57°	213.4	219.9	385.1	255.1	220.3	224.4	417.8	217.1	207.7	209.7	240.8
57.5°	209.7	216.2	352.0	235.9	216.7	219.5	383.4	213.4	204.4	206.0	227.7
58°	206.4	212.6	322.5	223.6	213.0	215.8	348.7	209.3	200.7	202.4	217.1
58.5°	202.8	208.9	297.2	218.7	209.3	211.8	314.4	206.0	197.4	199.1	208.1
59°	199.5	205.2	274.7	214.6	205.6	208.1	280.4	202.4	193.8	195.4	200.3
59.5°	195.8	201.9	256.7	210.5	201.9	204.4	257.5	198.7	190.5	192.1	193.8
60°	192.5	198.3	241.6	206.8	198.3	200.7	239.5	195.4	187.2	188.9	188.0
60.5°	188.9	195.0	229.3	203.2	194.6	197.0	225.7	191.7	184.0	185.6	183.5
61°	185.6	191.7	219.1	199.5	191.3	193.4	213.4	188.5	180.7	182.3	179.9
61.5°	181.9	188.5	209.7	196.2	188.0	190.1	204.4	185.2	177.0	179.0	176.2
62°	178.6	184.8	201.9	192.5	184.8	186.8	196.2	181.9	173.7	175.8	172.1
62.5°	175.0	181.5	195.0	189.3	181.5	183.5	189.7	178.6	170.1	172.5	168.4
63°	171.3	178.2	189.7	185.6	177.8	180.3	183.5	175.4	166.8	168.8	164.7
63.5°	168.0	175.0	185.6	182.3	174.6	177.0	179.0	172.1	163.5	165.6	161.5
64°	164.3	171.7	181.5	179.0	171.3	173.7	175.0	168.8	159.8	161.9	157.8
64.5°	161.1	168.0	177.8	175.4	168.0	170.5	171.3	165.6	156.6	158.6	154.1
65°	157.4	164.7	174.1	172.1	164.7	167.2	167.6	162.3	153.3	155.3	150.4
65.5°	153.7	161.5	170.1	168.8	161.1	163.9	163.9	159.0	149.6	151.7	147.2
66°	150.4	157.8	166.4	165.6	157.8	160.7	160.2	155.3	146.3	148.4	143.5



TEST NUMBER: P776534

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	140.2	149.2	155.7	155.3	148.0	150.8	149.6	145.1	136.5	138.2	132.9
68°	136.9	145.5	152.1	151.7	144.7	147.6	145.9	141.8	133.3	134.5	129.2
68.5°	133.7	141.8	147.6	148.0	141.4	143.9	142.7	138.6	130.0	131.2	125.5
69°	130.4	137.8	144.3	144.7	138.2	140.6	139.0	134.9	126.7	127.5	122.2
69.5°	126.7	134.1	141.0	141.4	134.9	137.4	135.7	131.6	123.5	124.3	118.5
70°	123.5	130.8	137.4	138.6	131.6	134.1	132.0	128.4	119.8	121.0	114.9
70.5°	119.8	127.1	134.1	135.3	128.8	130.8	128.8	125.1	116.5	117.3	111.6
71°	116.5	123.9	130.4	131.6	125.5	127.5	125.1	121.4	113.2	114.1	107.9
71.5°	112.8	120.6	127.1	128.4	122.2	124.3	121.8	118.1	110.0	110.8	104.2
72°	109.6	116.9	123.5	125.1	119.0	121.0	118.1	114.9	106.7	107.1	101.0
72.5°	105.9	113.2	119.8	121.8	116.1	117.7	114.9	111.6	103.4	103.8	97.3
73°	102.6	110.0	116.1	118.1	112.8	114.5	111.2	107.9	100.2	100.6	94.0
73.5°	98.9	106.3	112.8	114.9	109.6	111.2	107.9	104.6	96.9	96.9	90.3
74°	95.7	103.0	109.1	111.6	106.3	107.9	104.6	101.4	93.6	93.6	86.7
74.5°	92.0	99.3	105.5	108.3	103.0	104.6	101.0	98.1	89.9	89.9	83.4
75°	88.7	96.1	102.2	105.1	99.7	101.4	97.7	94.4	86.7	86.7	79.7
75.5°	85.0	92.4	98.5	101.8	96.9	98.1	94.4	91.2	83.4	83.0	76.0
76°	81.3	88.7	94.8	98.1	93.6	94.8	90.8	87.5	80.1	79.3	72.8
76.5°	78.1	85.0	91.6	94.8	90.3	91.6	87.5	84.2	76.9	76.0	69.1
77°	74.4	81.8	87.9	91.6	87.1	88.3	84.2	80.9	73.2	72.8	65.8
77.5°	71.1	78.1	84.2	87.9	83.8	85.0	80.5	77.3	69.9	69.1	62.1
78°	67.5	74.4	80.9	84.6	80.5	81.8	77.3	74.0	66.6	65.8	58.9
78.5°	64.2	71.1	77.3	81.3	77.3	78.5	74.0	70.3	63.4	62.1	55.2
79°	60.5	67.5	74.0	77.7	74.4	75.2	70.3	67.0	60.1	58.9	51.9
79.5°	57.2	63.8	70.3	74.4	71.1	71.9	67.0	63.8	56.8	55.2	48.2
80°	53.6	60.5	66.6	71.1	67.9	68.3	63.8	60.1	53.6	51.9	45.0
80.5°	50.3	56.8	63.4	67.5	64.6	65.4	60.5	56.8	50.3	48.2	41.7
81°	47.0	53.1	60.1	64.2	61.7	62.1	57.2	53.6	47.0	45.0	38.0
81.5°	43.3	49.5	56.4	60.9	58.5	58.5	53.6	50.3	43.7	41.3	34.7
82°	40.1	46.2	52.7	57.2	55.2	55.6	50.3	46.6	40.5	38.0	31.5
82.5°	36.4	42.5	49.5	54.0	51.9	51.9	47.0	43.3	37.2	34.3	27.8
83°	33.1	39.2	46.2	50.7	49.1	48.6	43.7	40.1	33.9	31.1	24.5
83.5°	29.4	35.6	42.5	47.4	45.8	45.4	40.5	36.4	30.7	27.4	21.7
84°	26.2	31.9	39.2	44.1	42.5	42.1	37.2	33.1	27.4	24.1	18.8
84.5°	22.9	28.6	35.6	40.5	39.7	38.8	33.9	29.8	24.1	20.8	15.9
85°	19.2	24.9	32.3	37.2	36.4	36.0	30.7	26.2	21.3	17.2	13.1
85.5°	15.9	21.7	29.0	33.9	33.1	32.7	27.4	22.9	18.0	13.9	10.2
86°	13.5	18.0	25.3	30.7	30.3	29.4	24.1	19.6	15.1	11.0	7.8
86.5°	10.6	14.3	22.5	27.8	27.0	26.2	21.3	15.9	11.9	8.6	4.9
87°	8.2	11.9	19.6	24.5	23.7	22.9	18.4	13.1	9.0	6.5	2.5
87.5°	5.7	9.4	16.8	21.3	20.8	20.0	15.5	10.6	6.9	4.5	0.4
88°	3.3	6.9	14.3	18.4	17.6	16.8	13.1	8.2	4.9	2.5	0.0
88.5°	1.2	4.5	11.4	15.1	14.7	13.9	10.2	6.1	2.9	0.4	0.0



TEST NUMBER: P776534

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-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	3.3	6.1	5.7	4.9	2.5	0.4	0.0	0.0	0.0



TEST NUMBER: P776534

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2391.8	2391.8	2391.8	2391.8	2391.8	2391.8
0.5°	2388.5	2390.2	2389.8	2390.2	2391.4	2392.6
1°	2386.9	2388.1	2387.3	2388.1	2389.8	2391.8
1.5°	2384.9	2386.1	2384.9	2385.7	2388.1	2390.6
2°	2382.8	2383.6	2382.4	2383.6	2386.1	2389.4
2.5°	2380.4	2380.8	2380.0	2380.8	2383.6	2387.3
3°	2377.9	2378.3	2376.7	2378.3	2381.2	2385.7
3.5°	2375.1	2375.1	2373.8	2375.1	2378.7	2384.1
4°	2372.2	2371.8	2370.2	2371.8	2375.9	2381.6
4.5°	2368.9	2368.1	2366.9	2368.5	2373.0	2379.1
5°	2365.7	2364.4	2362.8	2364.4	2369.3	2376.3
5.5°	2362.0	2360.3	2358.7	2360.8	2366.1	2373.4
6°	2357.9	2356.3	2354.2	2356.7	2362.4	2370.2
6.5°	2353.8	2351.8	2349.7	2352.2	2358.7	2367.3
7°	2349.3	2346.9	2344.8	2347.7	2354.2	2363.6
7.5°	2344.8	2341.9	2339.5	2342.8	2350.1	2359.5
8°	2339.9	2336.6	2334.2	2337.9	2345.2	2355.4
8.5°	2334.6	2331.3	2328.9	2332.5	2340.3	2351.3
9°	2329.3	2325.2	2323.1	2326.8	2335.4	2346.9
9.5°	2323.6	2319.5	2317.0	2321.1	2330.1	2341.9
10°	2317.8	2313.3	2310.5	2315.0	2324.4	2337.0
10.5°	2311.3	2306.8	2303.9	2308.8	2318.6	2331.7
11°	2305.2	2299.8	2297.4	2302.3	2312.5	2326.4
11.5°	2298.2	2292.9	2290.4	2295.8	2306.4	2320.7
12°	2291.7	2285.5	2282.7	2288.4	2299.4	2314.6
12.5°	2284.3	2277.8	2275.3	2281.4	2292.5	2308.0
13°	2276.9	2270.0	2267.1	2273.7	2285.9	2301.9
13.5°	2269.2	2261.8	2259.4	2266.3	2278.6	2294.9
14°	2261.4	2253.6	2250.8	2258.1	2270.8	2288.0
14.5°	2253.2	2245.1	2242.2	2250.0	2263.1	2280.6
15°	2244.7	2236.1	2232.8	2241.4	2254.9	2272.9
15.5°	2236.1	2227.1	2224.2	2232.8	2246.3	2265.1
16°	2227.1	2217.3	2214.8	2223.4	2238.1	2256.9
16.5°	2218.1	2207.9	2205.0	2214.4	2229.1	2248.7
17°	2208.3	2198.1	2194.8	2204.6	2220.1	2240.2
17.5°	2198.5	2187.4	2184.6	2195.2	2210.7	2231.2
18°	2188.7	2176.8	2174.3	2185.0	2200.9	2222.2
18.5°	2178.0	2165.8	2163.7	2174.3	2191.1	2212.4
19°	2167.4	2154.7	2151.9	2164.1	2180.9	2202.6
19.5°	2156.8	2143.7	2140.8	2153.1	2170.7	2192.7
20°	2145.7	2131.8	2129.4	2142.0	2159.6	2182.5
20.5°	2133.9	2119.6	2117.5	2131.0	2148.6	2171.5
21°	2122.4	2107.3	2105.3	2118.7	2137.1	2160.4

TEST NUMBER: P776534

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2085.2	2068.1	2066.8	2082.4	2101.2	2125.3
23°	2072.6	2054.2	2053.3	2069.7	2088.9	2113.0
23.5°	2059.1	2040.7	2039.9	2057.0	2076.2	2100.4
24°	2045.6	2026.0	2026.0	2043.5	2063.2	2087.3
24.5°	2031.7	2011.2	2011.2	2030.0	2049.7	2074.2
25°	2017.4	1996.1	1996.5	2016.1	2036.2	2060.3
25.5°	2003.1	1981.0	1981.8	2002.2	2021.9	2046.4
26°	1987.9	1965.5	1966.7	1987.5	2008.0	2032.5
26.5°	1972.8	1949.9	1951.1	1972.8	1993.3	2017.8
27°	1957.7	1933.6	1935.2	1958.1	1978.5	2003.1
27.5°	1941.7	1916.8	1919.3	1943.0	1963.0	1987.1
28°	1925.8	1900.0	1902.5	1927.0	1947.5	1972.0
28.5°	1909.4	1882.9	1886.1	1911.5	1931.9	1955.2
29°	1893.1	1865.7	1869.4	1895.1	1916.4	1940.1
29.5°	1876.3	1848.5	1852.2	1878.8	1899.6	1922.9
30°	1859.2	1831.0	1834.6	1862.4	1883.3	1907.0
30.5°	1842.0	1813.0	1817.5	1845.3	1866.5	1889.4
31°	1824.8	1795.0	1799.9	1828.5	1849.4	1873.1
31.5°	1807.3	1776.6	1781.5	1810.9	1832.2	1855.5
32°	1789.7	1757.8	1763.5	1793.4	1814.6	1838.3
32.5°	1772.1	1739.0	1745.9	1775.0	1797.0	1819.9
33°	1753.7	1719.8	1727.5	1757.4	1779.5	1802.8
33.5°	1735.3	1700.1	1708.3	1739.0	1761.1	1784.4
34°	1716.5	1680.5	1689.9	1720.6	1743.9	1766.0
34.5°	1698.1	1659.7	1670.3	1701.0	1725.5	1745.9
35°	1678.9	1638.0	1651.1	1682.6	1707.1	1727.5
35.5°	1659.7	1594.7	1631.1	1663.8	1688.7	1708.3
36°	1640.1	1545.2	1611.4	1644.1	1669.9	1688.3
36.5°	1620.0	1489.6	1589.8	1624.9	1650.3	1667.4
37°	1598.8	1434.0	1559.5	1605.7	1631.1	1632.3
37.5°	1573.8	1376.8	1516.6	1586.1	1611.4	1590.2
38°	1531.7	1317.9	1463.9	1566.5	1591.4	1533.8
38.5°	1481.0	1257.4	1409.5	1546.9	1571.8	1477.4
39°	1427.5	1195.3	1358.4	1527.6	1550.5	1422.6
39.5°	1373.5	1132.8	1303.2	1508.0	1517.0	1367.0
40°	1319.6	1074.7	1246.8	1488.8	1476.5	1308.9
40.5°	1262.7	1017.1	1187.5	1468.8	1424.2	1248.4
41°	1204.3	961.5	1129.9	1449.2	1371.9	1186.7
41.5°	1144.6	904.2	1072.3	1429.5	1321.2	1125.8
42°	1086.6	849.5	1016.2	1410.3	1268.9	1067.8
42.5°	1029.3	793.0	962.7	1390.7	1216.6	1012.6
43°	973.7	739.5	911.2	1371.1	1161.4	955.7
43.5°	920.2	688.0	857.6	1350.6	1105.4	899.3



TEST NUMBER: P776534

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	759.9	545.3	700.7	1253.8	943.1	735.8
45.5°	708.4	500.8	652.0	1208.0	892.4	683.9
46°	658.6	460.3	605.8	1161.0	840.9	635.3
46.5°	610.7	424.3	560.0	1116.4	789.4	587.4
47°	564.5	394.5	515.5	1070.2	737.9	540.8
47.5°	520.4	369.1	474.6	1022.8	688.8	498.7
48°	477.1	348.3	436.6	965.6	641.4	458.3
48.5°	439.0	329.9	403.9	906.3	595.6	422.3
49°	403.9	313.1	376.1	843.7	550.6	391.6
49.5°	381.4	296.4	352.0	784.9	508.9	365.5
50°	359.7	280.0	331.9	728.9	467.2	343.0
50.5°	338.1	263.3	314.4	676.1	429.6	324.2
51°	316.0	250.2	298.0	624.2	395.3	306.6
51.5°	294.3	241.6	281.7	577.6	366.3	289.0
52°	277.6	236.7	265.3	532.7	340.9	271.8
52.5°	261.6	232.6	249.8	488.5	319.3	256.7
53°	245.7	228.9	237.9	448.8	300.5	245.7
53.5°	233.0	225.2	232.2	412.9	283.3	240.4
54°	226.1	221.2	227.7	378.5	266.1	235.9
54.5°	222.0	217.5	224.0	350.3	250.2	232.2
55°	217.9	213.8	219.9	322.9	236.7	228.5
55.5°	214.2	210.1	216.2	299.2	228.5	224.4
56°	210.5	206.8	212.6	277.6	224.4	220.7
56.5°	206.8	203.2	208.9	260.8	220.3	217.1
57°	203.6	199.9	205.2	245.7	216.7	213.4
57.5°	199.9	196.2	201.9	233.4	213.0	209.7
58°	196.6	192.9	198.7	222.8	209.3	206.4
58.5°	193.4	189.7	195.0	214.2	205.6	202.8
59°	189.7	186.4	191.7	206.0	202.4	199.5
59.5°	186.4	183.1	188.5	199.1	198.7	195.8
60°	183.1	179.5	184.8	193.8	195.0	192.5
60.5°	179.9	176.2	181.9	189.7	191.7	188.9
61°	176.6	172.9	178.6	186.0	188.0	185.6
61.5°	172.9	169.6	175.4	182.3	184.8	181.9
62°	169.6	166.0	171.7	178.2	181.1	178.6
62.5°	166.4	162.7	168.4	174.6	177.8	175.0
63°	162.7	159.4	165.2	170.9	174.1	171.3
63.5°	159.4	155.7	161.5	167.2	170.5	168.0
64°	156.2	152.5	158.2	163.5	166.8	164.3
64.5°	152.5	149.6	154.5	159.8	163.1	161.1
65°	149.2	146.3	151.3	156.2	159.8	157.4
65.5°	145.5	143.1	147.2	152.9	156.2	153.7
66°	142.3	139.8	144.3	149.2	152.5	150.4



TEST NUMBER: P776534

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	132.0	129.6	134.9	138.2	141.8	140.2
68°	128.8	126.3	131.2	134.9	138.2	136.9
68.5°	125.1	123.0	128.0	131.2	134.5	133.7
69°	121.8	119.8	124.7	127.5	131.2	130.4
69.5°	118.1	116.5	121.0	123.9	127.5	126.7
70°	114.9	113.2	117.7	120.2	123.9	123.5
70.5°	111.6	110.0	114.1	116.5	120.2	119.8
71°	108.3	106.7	110.8	112.8	116.9	116.5
71.5°	104.6	103.4	107.5	109.1	113.2	112.8
72°	101.4	99.7	103.8	105.5	109.6	109.6
72.5°	97.7	96.5	100.2	101.8	105.9	105.9
73°	94.4	93.2	96.9	98.5	102.2	102.6
73.5°	90.8	89.5	93.2	94.8	98.5	98.9
74°	87.5	86.3	89.9	91.2	95.2	95.7
74.5°	83.8	83.0	86.3	87.5	91.6	92.0
75°	80.5	79.7	82.6	83.8	87.9	88.7
75.5°	76.9	76.0	79.3	80.1	83.8	85.0
76°	73.6	72.8	75.6	76.4	80.5	81.3
76.5°	69.9	69.5	72.4	72.8	76.9	78.1
77°	66.6	66.2	68.7	69.5	73.2	74.4
77.5°	63.0	63.0	65.4	65.8	69.5	71.1
78°	59.7	59.7	61.7	62.1	65.8	67.5
78.5°	56.0	56.0	58.5	58.5	62.1	64.2
79°	52.7	52.7	54.8	54.8	58.5	60.5
79.5°	49.1	49.5	51.1	51.1	54.8	57.2
80°	45.8	46.2	47.8	47.8	51.1	53.6
80.5°	42.1	42.9	44.1	44.1	47.4	50.3
81°	38.8	39.7	40.9	40.5	43.7	47.0
81.5°	35.6	36.4	37.6	37.2	40.1	43.3
82°	32.3	33.1	33.9	33.9	36.4	40.1
82.5°	29.0	29.4	30.7	30.7	33.1	36.4
83°	25.3	26.2	27.4	27.4	29.4	33.1
83.5°	22.1	22.9	23.7	24.1	25.3	29.4
84°	18.8	19.6	20.4	21.3	22.1	26.2
84.5°	15.9	16.8	17.2	18.0	18.4	22.9
85°	12.7	13.5	13.9	15.1	15.5	19.2
85.5°	9.4	10.2	11.0	12.3	13.1	15.9
86°	6.1	7.4	7.8	9.4	10.6	13.5
86.5°	3.3	4.1	4.5	6.5	7.8	10.6
87°	0.8	1.2	1.6	3.3	5.3	8.2
87.5°	0.0	0.0	0.4	1.2	3.3	5.7
88°	0.0	0.0	0.0	0.0	1.2	3.3
88.5°	0.0	0.0	0.0	0.0	0.0	1.2



TEST NUMBER: P776534

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

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



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

Scaled Data Report





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

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Scaled Data Report



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Scaled Data Report





21.5°	2149.0	2182.5	2225.4	2250.0	2261.0	2267.5	2262.2	2242.6	2215.6	2187.4	2143.7
22°	2137.1	2171.9	2216.4	2241.0	2252.4	2259.4	2254.1	2233.6	2205.8	2176.8	2132.2



44°	843.7	1072.7	1532.1	1447.1	1174.9	1372.3	1595.5	1257.4	935.7	1076.3	1386.6
44.5°	789.0	1015.8	1512.1	1389.1	1114.4	1312.2	1576.3	1199.4	879.7	1017.1	1366.6



66.5°	147.2	154.5	162.7	161.9	154.5	157.4	156.6	152.1	143.1	144.7	139.8
67°	143.9	150.8	159.0	158.6	151.3	154.1	153.3	148.8	139.8	141.4	136.5



89°	0.0	2.5	8.6	12.3	11.4	10.6	7.8	3.7	1.2	0.0	0.0
89.5°	0.0	0.4	6.1	9.0	8.6	7.8	4.9	1.6	0.0	0.0	0.0

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21.5°	2110.2	2094.2	2093.0	2106.9	2125.7	2149.0
22°	2097.9	2081.1	2079.5	2095.0	2113.8	2137.1



44°	867.4	639.3	804.1	1329.0	1050.2	843.7
44.5°	813.9	590.3	750.9	1292.6	995.8	789.0



66.5°	139.0	136.5	141.0	145.5	148.8	147.2
67°	135.7	133.3	137.8	141.8	145.1	143.9

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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)