

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: P776532

Luminaire Tested: HCDJBL3040CSD-HCD8TSQMW-4000lm-3500K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776532
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-3500K
Description: 8 INCH SQUARE MEDIUM MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

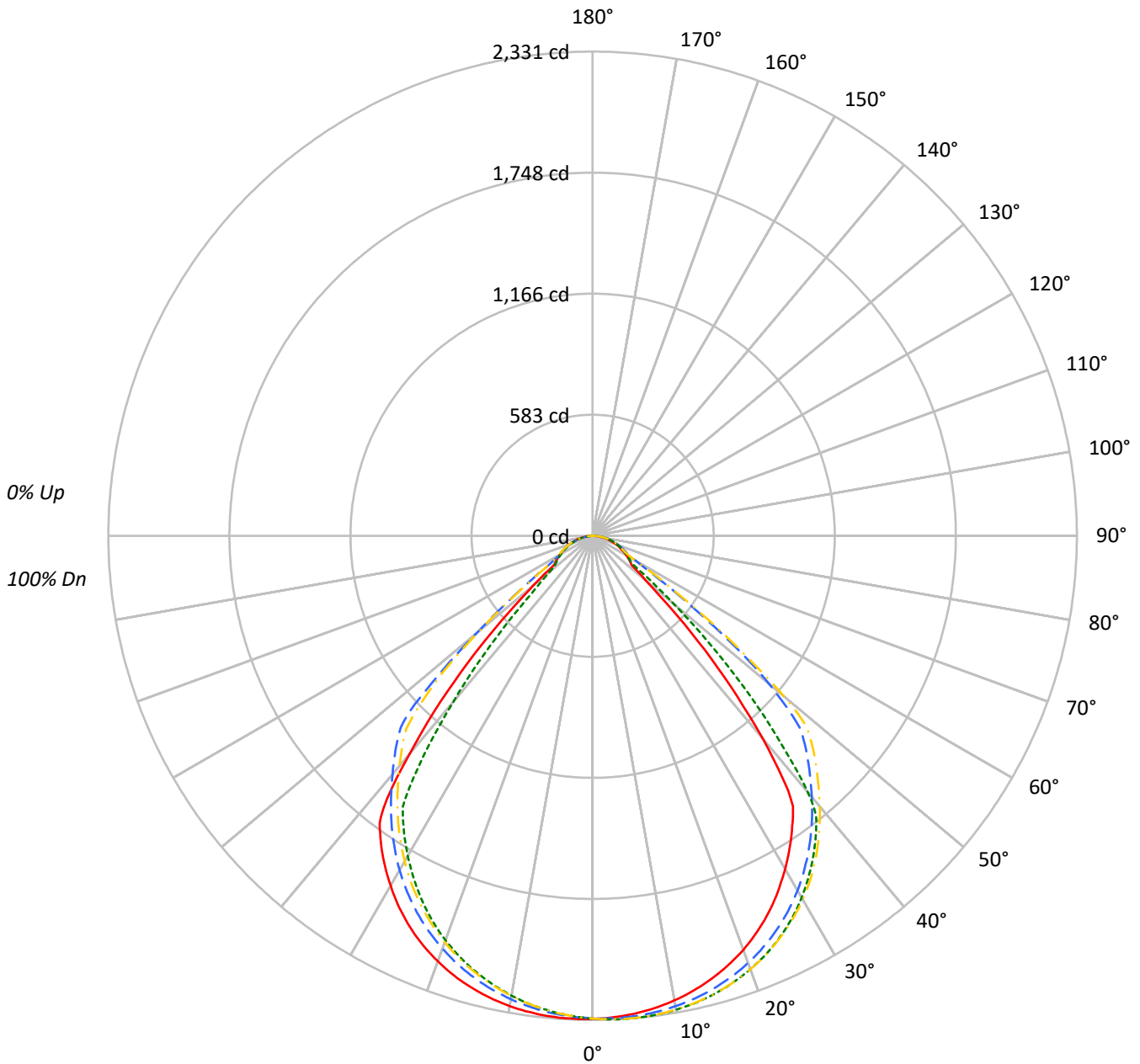
Lumens per Lamp: N/A
Luminaire Lumens: 4209.7 lumens
Efficiency: N/A
Efficacy: 109.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.29
Luminous Opening: Rectangular (W 0.67' x L: 0.67' x H: 0')
CIE Type: Direct

Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (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	102	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	84	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	56					56			
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51					51			
7	73	62	54	49	72	61	54	49	60	53	48	58	52	48	57	52	48	46					46			
8	69	57	50	44	67	56	49	44	55	49	44	54	48	44	53	48	44	42					42			
9	65	53	45	41	63	52	45	40	51	45	40	50	44	40	49	44	40	38					38			
10	61	49	42	37	60	49	42	37	48	41	37	47	41	37	46	41	37	35					35			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	55733	55733	55733	55733
5°	55582	56110	55919	55306
10°	55297	56410	55984	54737
15°	54829	56624	55904	53943
20°	54122	56666	55620	52864
25°	52973	56410	55010	51322
30°	51311	55722	53842	49265
35°	49142	54400	52108	46596
40°	39816	50461	42924	32691
45°	24249	34714	27240	17969
50°	12433	18939	13899	10150
55°	9285	9699	9051	8687
60°	8973	9241	8723	8364
65°	8675	9084	8454	8068
70°	8413	8967	8161	7712
75°	7986	8977	7801	7180
80°	7180	9100	7180	6200
85°	5145	9739	5695	3604

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 135°
 Vertical Angle: 45°
 Luminance: 51300 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	219.9	5.2
10°-20°	628.6	14.9
20°-30°	939.8	22.3
30°-40°	1078.4	25.6
40°-50°	783.1	18.6
50°-60°	287.0	6.8
60°-70°	153.9	3.7
70°-80°	93.0	2.2
80°-90°	26.1	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°	1788.3	42.5
0°-40°	2866.7	68.1
0°-60°	3936.8	93.5
0°-90°	4209.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4209.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2324	2324	2324	2324	2324	
5°	2309	2331	2323	2298	2309	219
15°	2209	2281	2252	2173	2209	623
25°	2002	2132	2079	1940	2002	921
35°	1679	1858	1780	1592	1679	1025
45°	715	1024	803	530	715	564
55°	222	232	216	208	222	208
65°	153	160	149	142	153	152
75°	86	97	84	78	86	91
85°	19	35	21	13	19	23
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°	2324.3	2324.3	2324.3	2324.3	2324.3	2324.3	2324.3	2324.3	2324.3	2324.3	2324.3
0.5°	2325.1	2325.5	2324.3	2323.9	2325.9	2325.9	2325.9	2326.7	2326.7	2325.5	2322.4
1°	2324.3	2325.1	2324.7	2325.1	2327.5	2327.1	2327.1	2327.5	2327.1	2325.1	2321.2
1.5°	2323.2	2324.7	2325.1	2325.9	2328.7	2328.3	2328.3	2328.3	2327.1	2324.7	2320.0
2°	2322.0	2323.9	2325.1	2326.3	2329.5	2329.5	2329.1	2328.7	2327.1	2324.3	2318.8
2.5°	2320.0	2323.2	2325.1	2327.1	2330.3	2330.3	2329.9	2328.7	2327.1	2323.6	2316.8
3°	2318.4	2322.0	2324.7	2327.5	2331.1	2331.1	2330.3	2328.7	2326.7	2322.8	2315.2
3.5°	2316.8	2320.8	2324.3	2327.5	2331.1	2331.5	2330.7	2329.1	2326.3	2321.6	2312.8
4°	2314.4	2319.2	2323.9	2327.5	2331.1	2331.5	2331.1	2328.7	2325.5	2320.0	2310.4
4.5°	2312.0	2317.6	2322.8	2326.7	2331.1	2331.5	2330.7	2328.3	2324.3	2318.4	2308.1
5°	2309.2	2315.6	2322.0	2326.3	2331.1	2331.5	2330.7	2327.5	2323.2	2316.4	2305.3
5.5°	2306.5	2313.6	2320.4	2325.5	2330.7	2330.7	2329.9	2326.7	2321.6	2314.0	2302.5
6°	2303.3	2311.2	2319.2	2324.7	2329.9	2330.3	2329.1	2325.5	2320.0	2312.0	2299.3
6.5°	2300.5	2308.5	2317.2	2323.6	2329.1	2329.5	2328.3	2324.3	2318.0	2309.6	2296.1
7°	2296.9	2305.7	2315.6	2322.4	2327.9	2328.7	2327.1	2322.8	2316.0	2306.9	2292.2
7.5°	2293.0	2302.9	2313.2	2320.8	2326.7	2327.9	2325.9	2321.2	2313.6	2304.1	2288.6
8°	2289.0	2299.7	2311.2	2319.2	2325.1	2326.3	2324.3	2319.2	2311.2	2300.9	2284.2
8.5°	2285.0	2296.1	2308.5	2316.8	2323.6	2324.7	2322.8	2317.2	2308.5	2297.3	2279.9
9°	2280.6	2292.6	2305.7	2314.8	2321.6	2323.2	2320.8	2314.8	2305.7	2293.8	2275.5
9.5°	2275.9	2288.6	2302.9	2312.4	2319.6	2320.8	2318.8	2312.4	2302.5	2289.8	2270.7
10°	2271.1	2284.2	2300.1	2310.0	2316.8	2318.8	2316.0	2309.2	2299.3	2285.8	2265.9
10.5°	2265.9	2279.9	2296.5	2307.3	2314.4	2316.4	2313.6	2306.1	2295.3	2281.8	2260.4
11°	2260.8	2275.5	2293.0	2304.1	2311.6	2314.0	2310.8	2302.9	2291.4	2277.1	2254.8
11.5°	2255.2	2270.7	2288.6	2300.9	2308.9	2310.8	2307.7	2299.3	2287.4	2272.7	2249.3
12°	2249.3	2265.6	2285.0	2297.3	2305.7	2307.7	2304.5	2295.7	2283.4	2267.5	2243.7
12.5°	2242.9	2260.4	2280.6	2293.8	2302.1	2304.5	2301.3	2292.2	2278.7	2262.0	2237.3
13°	2236.9	2254.4	2276.3	2289.8	2298.5	2300.9	2297.3	2287.8	2273.9	2256.4	2231.0
13.5°	2230.2	2248.9	2271.5	2285.8	2294.6	2297.3	2293.4	2283.4	2268.7	2250.9	2224.2
14°	2223.4	2242.5	2266.7	2281.4	2290.2	2293.0	2289.4	2278.7	2263.6	2244.9	2217.1
14.5°	2216.3	2236.6	2261.6	2277.1	2285.8	2289.0	2285.0	2273.9	2258.0	2238.9	2209.9
15°	2208.7	2229.8	2256.0	2271.9	2281.0	2284.6	2280.3	2268.7	2252.0	2232.2	2202.8
15.5°	2201.2	2223.0	2250.5	2266.7	2276.3	2279.5	2275.9	2263.6	2246.1	2225.8	2195.2
16°	2193.3	2215.5	2244.5	2261.6	2271.1	2274.7	2270.7	2258.0	2239.7	2218.7	2187.3
16.5°	2185.3	2208.7	2238.1	2256.0	2265.9	2269.5	2265.2	2252.0	2233.4	2211.5	2178.9
17°	2177.0	2201.2	2231.8	2250.1	2260.0	2264.0	2259.6	2246.1	2226.6	2204.4	2170.6
17.5°	2168.2	2193.3	2225.4	2244.1	2254.0	2258.4	2253.6	2239.7	2219.5	2196.8	2161.9
18°	2159.5	2185.3	2218.3	2237.7	2248.1	2252.4	2248.1	2232.6	2211.9	2188.9	2153.1
18.5°	2150.0	2177.0	2211.1	2231.4	2241.7	2246.1	2241.7	2226.2	2204.4	2180.5	2143.6
19°	2140.4	2168.2	2204.0	2224.2	2235.0	2239.7	2235.0	2218.7	2196.4	2172.2	2134.1
19.5°	2130.9	2159.1	2196.0	2217.1	2227.8	2233.0	2228.2	2211.9	2188.5	2163.5	2124.5
20°	2121.0	2150.0	2188.1	2209.9	2220.7	2226.2	2221.1	2203.6	2179.7	2154.7	2114.6
20.5°	2110.2	2140.4	2180.1	2202.4	2213.1	2218.7	2213.9	2196.0	2171.0	2145.6	2104.3
21°	2099.5	2130.9	2171.8	2194.4	2205.6	2211.5	2206.0	2187.7	2162.3	2135.6	2093.5



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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	2099.9	2144.4	2169.0	2180.1	2186.9	2181.7	2161.5	2133.7	2105.5	2061.0
23°	2053.4	2088.8	2134.9	2160.3	2171.4	2178.2	2173.4	2152.3	2123.3	2094.7	2049.4
23.5°	2041.1	2077.6	2125.3	2150.7	2161.9	2169.4	2164.3	2142.8	2112.6	2083.6	2037.5
24°	2028.4	2065.7	2115.0	2141.2	2152.7	2160.3	2154.7	2132.5	2102.3	2072.5	2025.6
24.5°	2015.7	2053.8	2104.7	2131.7	2142.8	2150.7	2145.6	2122.5	2090.8	2061.0	2012.9
25°	2002.2	2041.5	2093.9	2121.0	2132.1	2140.8	2135.6	2112.2	2079.2	2049.0	2000.6
25.5°	1988.7	2028.8	2083.2	2110.6	2122.1	2130.5	2125.7	2101.5	2067.7	2036.7	1987.5
26°	1975.2	2016.1	2071.7	2099.9	2111.0	2120.6	2115.4	2090.4	2055.4	2024.4	1974.4
26.5°	1960.9	2003.0	2060.6	2088.8	2099.9	2109.8	2104.7	2078.4	2042.7	2011.3	1960.9
27°	1946.6	1989.5	2049.0	2077.6	2088.4	2097.9	2093.9	2066.5	2029.6	1998.2	1947.0
27.5°	1931.1	1975.6	2036.7	2066.1	2076.5	2086.8	2082.8	2054.6	2016.5	1984.7	1933.0
28°	1916.4	1961.7	2024.0	2053.8	2064.1	2075.3	2071.3	2042.3	2003.0	1970.8	1919.1
28.5°	1900.1	1947.3	2011.7	2041.9	2051.4	2063.0	2059.4	2029.2	1989.1	1956.5	1904.0
29°	1885.4	1932.7	1998.6	2028.8	2039.5	2050.2	2047.5	2016.5	1974.4	1942.2	1889.4
29.5°	1868.7	1917.6	1985.5	2016.1	2025.2	2037.5	2035.1	2002.6	1960.1	1926.7	1873.9
30°	1853.2	1902.1	1972.0	2003.0	2012.5	2024.4	2022.0	1989.1	1944.6	1912.0	1858.8
30.5°	1836.1	1886.6	1958.5	1989.5	1997.4	2010.9	2009.3	1974.8	1929.9	1896.5	1842.5
31°	1820.2	1871.1	1944.2	1975.2	1984.3	1997.4	1995.8	1960.5	1914.4	1880.6	1826.6
31.5°	1803.1	1854.4	1929.5	1961.3	1968.4	1982.7	1982.3	1945.8	1898.9	1864.7	1810.3
32°	1786.5	1838.1	1914.8	1946.6	1953.3	1968.8	1968.0	1930.7	1883.0	1848.8	1793.6
32.5°	1768.6	1821.8	1899.7	1931.5	1938.2	1953.7	1953.7	1915.6	1866.7	1832.5	1776.1
33°	1751.9	1805.5	1883.8	1916.4	1923.1	1939.0	1939.0	1900.1	1850.0	1816.3	1759.1
33.5°	1734.0	1788.4	1868.7	1901.3	1906.8	1923.5	1923.9	1884.6	1833.3	1800.0	1741.6
34°	1716.1	1771.8	1852.4	1885.4	1890.5	1907.6	1908.4	1868.3	1816.3	1783.3	1723.7
34.5°	1696.7	1754.3	1836.1	1869.5	1874.3	1891.7	1892.9	1852.4	1798.0	1766.2	1705.8
35°	1678.8	1736.8	1819.4	1853.2	1858.4	1876.2	1877.0	1836.1	1780.1	1748.7	1687.5
35.5°	1660.1	1718.9	1802.7	1836.9	1840.5	1860.0	1860.4	1819.8	1761.8	1730.8	1669.3
36°	1640.7	1701.1	1785.3	1820.2	1823.4	1843.3	1843.7	1802.7	1743.2	1713.0	1650.6
36.5°	1620.4	1682.4	1768.2	1803.9	1805.1	1827.0	1826.6	1785.3	1722.5	1694.7	1631.5
37°	1586.2	1663.7	1750.7	1786.9	1786.9	1809.5	1809.5	1767.4	1692.3	1675.6	1612.9
37.5°	1545.3	1645.0	1732.8	1769.4	1768.2	1792.0	1791.6	1749.5	1654.6	1657.0	1593.4
38°	1490.5	1625.6	1715.0	1751.9	1749.1	1773.7	1774.1	1730.8	1607.7	1636.7	1574.3
38.5°	1435.7	1605.7	1696.3	1734.0	1727.7	1755.9	1755.9	1712.6	1552.5	1614.1	1555.7
39°	1382.5	1575.9	1678.0	1716.1	1697.1	1737.2	1738.0	1693.5	1494.1	1577.1	1536.6
39.5°	1328.4	1536.2	1659.7	1697.5	1659.3	1718.1	1719.3	1672.1	1432.9	1536.2	1517.5
40°	1272.0	1484.1	1641.1	1678.4	1612.1	1698.7	1700.3	1637.1	1371.3	1487.3	1498.8
40.5°	1213.2	1429.7	1622.4	1658.9	1558.4	1677.6	1681.2	1601.7	1312.9	1432.9	1480.6
41°	1153.2	1377.7	1603.3	1639.5	1497.7	1644.6	1662.9	1555.3	1256.9	1378.9	1461.9
41.5°	1094.0	1325.2	1584.7	1618.4	1436.1	1608.1	1643.8	1503.6	1199.7	1318.1	1443.2
42°	1037.6	1270.4	1565.6	1590.2	1374.1	1563.6	1625.2	1447.6	1142.1	1262.5	1424.2
42.5°	984.0	1213.2	1546.5	1553.7	1315.3	1510.8	1606.5	1388.8	1082.5	1208.5	1405.5
43°	928.8	1156.4	1527.8	1510.4	1258.1	1453.6	1587.4	1331.6	1023.7	1157.2	1386.4
43.5°	874.0	1099.2	1508.4	1461.5	1200.5	1393.2	1569.2	1276.0	965.3	1100.8	1367.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	715.1	933.6	1451.2	1293.5	1023.7	1220.0	1512.8	1110.3	803.3	937.5	1305.8
45.5°	664.6	881.1	1431.7	1237.5	964.1	1164.8	1493.3	1053.5	749.6	880.7	1273.6
46°	617.3	828.3	1411.8	1184.6	908.9	1108.3	1473.8	997.1	698.8	830.3	1235.5
46.5°	570.9	774.6	1392.0	1131.8	854.9	1049.9	1454.4	939.9	648.3	778.2	1182.2
47°	525.6	722.6	1371.3	1077.4	800.9	991.6	1434.5	885.9	600.3	731.3	1116.7
47.5°	484.7	673.0	1334.8	1022.5	747.6	934.3	1413.8	833.4	553.8	680.1	1051.1
48°	445.3	624.9	1296.6	967.7	694.8	880.7	1392.4	782.6	512.5	634.0	984.0
48.5°	410.4	578.8	1249.0	912.5	644.7	827.9	1359.4	730.6	471.5	587.1	919.3
49°	380.6	533.5	1202.1	861.6	596.3	774.6	1313.7	680.1	434.2	541.9	856.9
49.5°	355.1	491.4	1154.4	808.8	550.6	723.0	1263.3	631.2	398.8	500.9	795.3
50°	333.3	450.9	1108.3	761.1	507.7	671.4	1201.7	584.0	372.6	462.8	734.5
50.5°	315.0	413.9	1058.3	711.9	468.0	621.7	1136.2	539.5	346.8	425.1	676.9
51°	297.9	381.4	1000.3	663.0	429.8	574.4	1067.0	495.8	321.0	390.5	623.3
51.5°	280.9	355.1	941.5	613.8	395.3	529.1	997.5	456.4	295.2	363.1	573.2
52°	264.2	332.1	879.9	569.3	367.9	486.6	930.0	419.5	269.3	335.7	524.8
52.5°	249.5	312.6	816.8	525.2	340.1	446.9	863.6	390.9	249.1	308.7	480.7
53°	238.8	294.8	755.6	484.7	312.6	409.6	802.5	362.3	234.8	281.3	440.6
53.5°	233.6	278.5	696.4	444.9	285.2	381.4	744.1	333.7	228.4	259.4	403.6
54°	229.2	261.8	640.4	410.0	264.6	353.2	686.9	305.1	224.1	239.9	375.8
54.5°	225.6	245.9	586.4	375.0	245.1	325.0	630.8	276.5	220.1	225.6	348.4
55°	222.1	233.2	538.7	344.8	232.0	296.8	577.2	256.2	216.5	219.3	321.4
55.5°	218.1	225.6	493.4	317.0	226.0	268.5	526.8	236.8	212.5	214.9	294.0
56°	214.5	221.3	449.3	292.0	222.1	247.5	479.9	221.7	209.0	211.3	267.0
56.5°	210.9	217.7	409.6	268.9	218.1	229.2	439.4	215.3	205.4	207.4	249.1
57°	207.4	213.7	374.2	247.9	214.1	218.1	406.0	210.9	201.8	203.8	234.0
57.5°	203.8	210.1	342.0	229.2	210.5	213.3	372.6	207.4	198.6	200.2	221.3
58°	200.6	206.6	313.4	217.3	207.0	209.8	338.9	203.4	195.1	196.6	210.9
58.5°	197.0	203.0	288.8	212.5	203.4	205.8	305.5	200.2	191.9	193.5	202.2
59°	193.9	199.4	267.0	208.6	199.8	202.2	272.5	196.6	188.3	189.9	194.7
59.5°	190.3	196.2	249.5	204.6	196.2	198.6	250.3	193.1	185.1	186.7	188.3
60°	187.1	192.7	234.8	201.0	192.7	195.1	232.8	189.9	181.9	183.5	182.7
60.5°	183.5	189.5	222.9	197.4	189.1	191.5	219.3	186.3	178.8	180.4	178.4
61°	180.4	186.3	212.9	193.9	185.9	187.9	207.4	183.1	175.6	177.2	174.8
61.5°	176.8	183.1	203.8	190.7	182.7	184.7	198.6	180.0	172.0	174.0	171.2
62°	173.6	179.6	196.2	187.1	179.6	181.5	190.7	176.8	168.8	170.8	167.2
62.5°	170.0	176.4	189.5	183.9	176.4	178.4	184.3	173.6	165.3	167.6	163.7
63°	166.5	173.2	184.3	180.4	172.8	175.2	178.4	170.4	162.1	164.1	160.1
63.5°	163.3	170.0	180.4	177.2	169.6	172.0	174.0	167.2	158.9	160.9	156.9
64°	159.7	166.8	176.4	174.0	166.5	168.8	170.0	164.1	155.3	157.3	153.3
64.5°	156.5	163.3	172.8	170.4	163.3	165.7	166.5	160.9	152.1	154.1	149.8
65°	152.9	160.1	169.2	167.2	160.1	162.5	162.9	157.7	149.0	151.0	146.2
65.5°	149.4	156.9	165.3	164.1	156.5	159.3	159.3	154.5	145.4	147.4	143.0
66°	146.2	153.3	161.7	160.9	153.3	156.1	155.7	151.0	142.2	144.2	139.4



TEST NUMBER: P776532

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	136.3	145.0	151.4	151.0	143.8	146.6	145.4	141.0	132.7	134.3	129.1
68°	133.1	141.4	147.8	147.4	140.6	143.4	141.8	137.8	129.5	130.7	125.5
68.5°	129.9	137.8	143.4	143.8	137.5	139.8	138.6	134.7	126.3	127.5	122.0
69°	126.7	133.9	140.2	140.6	134.3	136.7	135.1	131.1	123.1	123.9	118.8
69.5°	123.1	130.3	137.1	137.5	131.1	133.5	131.9	127.9	120.0	120.8	115.2
70°	120.0	127.1	133.5	134.7	127.9	130.3	128.3	124.7	116.4	117.6	111.6
70.5°	116.4	123.5	130.3	131.5	125.1	127.1	125.1	121.6	113.2	114.0	108.5
71°	113.2	120.4	126.7	127.9	122.0	123.9	121.6	118.0	110.0	110.8	104.9
71.5°	109.6	117.2	123.5	124.7	118.8	120.8	118.4	114.8	106.9	107.7	101.3
72°	106.5	113.6	120.0	121.6	115.6	117.6	114.8	111.6	103.7	104.1	98.1
72.5°	102.9	110.0	116.4	118.4	112.8	114.4	111.6	108.5	100.5	100.9	94.5
73°	99.7	106.9	112.8	114.8	109.6	111.2	108.1	104.9	97.3	97.7	91.4
73.5°	96.1	103.3	109.6	111.6	106.5	108.1	104.9	101.7	94.1	94.1	87.8
74°	93.0	100.1	106.1	108.5	103.3	104.9	101.7	98.5	91.0	91.0	84.2
74.5°	89.4	96.5	102.5	105.3	100.1	101.7	98.1	95.3	87.4	87.4	81.0
75°	86.2	93.4	99.3	102.1	96.9	98.5	94.9	91.8	84.2	84.2	77.5
75.5°	82.6	89.8	95.7	98.9	94.1	95.3	91.8	88.6	81.0	80.6	73.9
76°	79.1	86.2	92.2	95.3	91.0	92.2	88.2	85.0	77.9	77.1	70.7
76.5°	75.9	82.6	89.0	92.2	87.8	89.0	85.0	81.8	74.7	73.9	67.1
77°	72.3	79.5	85.4	89.0	84.6	85.8	81.8	78.7	71.1	70.7	64.0
77.5°	69.1	75.9	81.8	85.4	81.4	82.6	78.3	75.1	67.9	67.1	60.4
78°	65.5	72.3	78.7	82.2	78.3	79.5	75.1	71.9	64.8	64.0	57.2
78.5°	62.4	69.1	75.1	79.1	75.1	76.3	71.9	68.3	61.6	60.4	53.6
79°	58.8	65.5	71.9	75.5	72.3	73.1	68.3	65.2	58.4	57.2	50.5
79.5°	55.6	62.0	68.3	72.3	69.1	69.9	65.2	62.0	55.2	53.6	46.9
80°	52.0	58.8	64.8	69.1	65.9	66.3	62.0	58.4	52.0	50.5	43.7
80.5°	48.9	55.2	61.6	65.5	62.8	63.6	58.8	55.2	48.9	46.9	40.5
81°	45.7	51.6	58.4	62.4	60.0	60.4	55.6	52.0	45.7	43.7	36.9
81.5°	42.1	48.1	54.8	59.2	56.8	56.8	52.0	48.9	42.5	40.1	33.8
82°	38.9	44.9	51.2	55.6	53.6	54.0	48.9	45.3	39.3	36.9	30.6
82.5°	35.4	41.3	48.1	52.4	50.5	50.5	45.7	42.1	36.2	33.4	27.0
83°	32.2	38.1	44.9	49.3	47.7	47.3	42.5	38.9	33.0	30.2	23.8
83.5°	28.6	34.6	41.3	46.1	44.5	44.1	39.3	35.4	29.8	26.6	21.1
84°	25.4	31.0	38.1	42.9	41.3	40.9	36.2	32.2	26.6	23.4	18.3
84.5°	22.2	27.8	34.6	39.3	38.5	37.7	33.0	29.0	23.4	20.3	15.5
85°	18.7	24.2	31.4	36.2	35.4	35.0	29.8	25.4	20.7	16.7	12.7
85.5°	15.5	21.1	28.2	33.0	32.2	31.8	26.6	22.2	17.5	13.5	9.9
86°	13.1	17.5	24.6	29.8	29.4	28.6	23.4	19.1	14.7	10.7	7.5
86.5°	10.3	13.9	21.8	27.0	26.2	25.4	20.7	15.5	11.5	8.3	4.8
87°	7.9	11.5	19.1	23.8	23.0	22.2	17.9	12.7	8.7	6.4	2.4
87.5°	5.6	9.1	16.3	20.7	20.3	19.5	15.1	10.3	6.8	4.4	0.4
88°	3.2	6.8	13.9	17.9	17.1	16.3	12.7	7.9	4.8	2.4	0.0
88.5°	1.2	4.4	11.1	14.7	14.3	13.5	9.9	6.0	2.8	0.4	0.0



TEST NUMBER: P776532

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.0	3.2	6.0	5.6	4.8	2.4	0.4	0.0	0.0	0.0



TEST NUMBER: P776532

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2324.3	2324.3	2324.3	2324.3	2324.3	2324.3
0.5°	2321.2	2322.8	2322.4	2322.8	2323.9	2325.1
1°	2319.6	2320.8	2320.0	2320.8	2322.4	2324.3
1.5°	2317.6	2318.8	2317.6	2318.4	2320.8	2323.2
2°	2315.6	2316.4	2315.2	2316.4	2318.8	2322.0
2.5°	2313.2	2313.6	2312.8	2313.6	2316.4	2320.0
3°	2310.8	2311.2	2309.6	2311.2	2314.0	2318.4
3.5°	2308.1	2308.1	2306.9	2308.1	2311.6	2316.8
4°	2305.3	2304.9	2303.3	2304.9	2308.9	2314.4
4.5°	2302.1	2301.3	2300.1	2301.7	2306.1	2312.0
5°	2298.9	2297.7	2296.1	2297.7	2302.5	2309.2
5.5°	2295.3	2293.8	2292.2	2294.2	2299.3	2306.5
6°	2291.4	2289.8	2287.8	2290.2	2295.7	2303.3
6.5°	2287.4	2285.4	2283.4	2285.8	2292.2	2300.5
7°	2283.0	2280.6	2278.7	2281.4	2287.8	2296.9
7.5°	2278.7	2275.9	2273.5	2276.7	2283.8	2293.0
8°	2273.9	2270.7	2268.3	2271.9	2279.1	2289.0
8.5°	2268.7	2265.6	2263.2	2266.7	2274.3	2285.0
9°	2263.6	2259.6	2257.6	2261.2	2269.5	2280.6
9.5°	2258.0	2254.0	2251.6	2255.6	2264.4	2275.9
10°	2252.4	2248.1	2245.3	2249.7	2258.8	2271.1
10.5°	2246.1	2241.7	2238.9	2243.7	2253.2	2265.9
11°	2240.1	2235.0	2232.6	2237.3	2247.3	2260.8
11.5°	2233.4	2228.2	2225.8	2231.0	2241.3	2255.2
12°	2227.0	2221.1	2218.3	2223.8	2234.6	2249.3
12.5°	2219.9	2213.5	2211.1	2217.1	2227.8	2242.9
13°	2212.7	2206.0	2203.2	2209.5	2221.5	2236.9
13.5°	2205.2	2198.0	2195.6	2202.4	2214.3	2230.2
14°	2197.6	2190.1	2187.3	2194.4	2206.8	2223.4
14.5°	2189.7	2181.7	2178.9	2186.5	2199.2	2216.3
15°	2181.3	2173.0	2169.8	2178.2	2191.3	2208.7
15.5°	2173.0	2164.3	2161.5	2169.8	2182.9	2201.2
16°	2164.3	2154.7	2152.3	2160.7	2175.0	2193.3
16.5°	2155.5	2145.6	2142.8	2151.9	2166.2	2185.3
17°	2146.0	2136.0	2132.9	2142.4	2157.5	2177.0
17.5°	2136.4	2125.7	2122.9	2133.3	2148.4	2168.2
18°	2126.9	2115.4	2113.0	2123.3	2138.8	2159.5
18.5°	2116.6	2104.7	2102.7	2113.0	2129.3	2150.0
19°	2106.3	2093.9	2091.2	2103.1	2119.4	2140.4
19.5°	2095.9	2083.2	2080.4	2092.3	2109.4	2130.9
20°	2085.2	2071.7	2069.3	2081.6	2098.7	2121.0
20.5°	2073.7	2059.8	2057.8	2070.9	2088.0	2110.2
21°	2062.6	2047.9	2045.9	2059.0	2076.9	2099.5

TEST NUMBER: P776532

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2026.4	2009.7	2008.5	2023.6	2041.9	2065.3
23°	2014.1	1996.2	1995.4	2011.3	2030.0	2053.4
23.5°	2001.0	1983.1	1982.3	1999.0	2017.7	2041.1
24°	1987.9	1968.8	1968.8	1985.9	2005.0	2028.4
24.5°	1974.4	1954.5	1954.5	1972.8	1991.8	2015.7
25°	1960.5	1939.8	1940.2	1959.3	1978.7	2002.2
25.5°	1946.6	1925.1	1925.9	1945.8	1964.8	1988.7
26°	1931.9	1910.0	1911.2	1931.5	1951.3	1975.2
26.5°	1917.2	1894.9	1896.1	1917.2	1937.0	1960.9
27°	1902.5	1879.0	1880.6	1902.9	1922.7	1946.6
27.5°	1887.0	1862.7	1865.1	1888.2	1907.6	1931.1
28°	1871.5	1846.4	1848.8	1872.7	1892.5	1916.4
28.5°	1855.6	1829.8	1832.9	1857.6	1877.4	1900.1
29°	1839.7	1813.1	1816.7	1841.7	1862.3	1885.4
29.5°	1823.4	1796.4	1800.0	1825.8	1846.0	1868.7
30°	1806.7	1779.3	1782.9	1809.9	1830.2	1853.2
30.5°	1790.0	1761.8	1766.2	1793.2	1813.9	1836.1
31°	1773.4	1744.4	1749.1	1776.9	1797.2	1820.2
31.5°	1756.3	1726.5	1731.2	1759.8	1780.5	1803.1
32°	1739.2	1708.2	1713.8	1742.8	1763.4	1786.5
32.5°	1722.1	1689.9	1696.7	1724.9	1746.3	1768.6
33°	1704.2	1671.3	1678.8	1707.8	1729.3	1751.9
33.5°	1686.4	1652.2	1660.1	1689.9	1711.4	1734.0
34°	1668.1	1633.1	1642.3	1672.1	1694.7	1716.1
34.5°	1650.2	1612.9	1623.2	1653.0	1676.8	1696.7
35°	1631.5	1591.8	1604.5	1635.1	1658.9	1678.8
35.5°	1612.9	1549.7	1585.1	1616.8	1641.1	1660.1
36°	1593.8	1501.6	1566.0	1597.8	1622.8	1640.7
36.5°	1574.3	1447.6	1544.9	1579.1	1603.7	1620.4
37°	1553.7	1393.6	1515.5	1560.4	1585.1	1586.2
37.5°	1529.4	1338.0	1473.8	1541.4	1566.0	1545.3
38°	1488.5	1280.8	1422.6	1522.3	1546.5	1490.5
38.5°	1439.3	1222.0	1369.7	1503.2	1527.4	1435.7
39°	1387.2	1161.6	1320.1	1484.5	1506.8	1382.5
39.5°	1334.8	1100.8	1266.5	1465.5	1474.2	1328.4
40°	1282.3	1044.4	1211.6	1446.8	1434.9	1272.0
40.5°	1227.1	988.4	1154.0	1427.3	1384.0	1213.2
41°	1170.3	934.3	1098.0	1408.3	1333.2	1153.2
41.5°	1112.3	878.7	1042.0	1389.2	1283.9	1094.0
42°	1055.9	825.5	987.6	1370.5	1233.1	1037.6
42.5°	1000.3	770.7	935.5	1351.5	1182.2	984.0
43°	946.3	718.6	885.5	1332.4	1128.6	928.8
43.5°	894.2	668.6	833.4	1312.5	1074.2	874.0

TEST NUMBER: P776532

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	738.5	529.9	680.9	1218.4	916.5	715.1
45.5°	688.4	486.6	633.6	1173.9	867.2	664.6
46°	640.0	447.3	588.7	1128.2	817.2	617.3
46.5°	593.5	412.4	544.2	1084.9	767.1	570.9
47°	548.6	383.4	500.9	1040.0	717.0	525.6
47.5°	505.7	358.7	461.2	993.9	669.4	484.7
48°	463.6	338.5	424.3	938.3	623.3	445.3
48.5°	426.7	320.6	392.5	880.7	578.8	410.4
49°	392.5	304.3	365.5	819.9	535.1	380.6
49.5°	370.6	288.0	342.0	762.7	494.6	355.1
50°	349.6	272.1	322.6	708.3	454.1	333.3
50.5°	328.5	255.8	305.5	657.1	417.5	315.0
51°	307.1	243.1	289.6	606.6	384.1	297.9
51.5°	286.0	234.8	273.7	561.3	355.9	280.9
52°	269.7	230.0	257.8	517.6	331.3	264.2
52.5°	254.2	226.0	242.7	474.7	310.3	249.5
53°	238.8	222.5	231.2	436.2	292.0	238.8
53.5°	226.4	218.9	225.6	401.2	275.3	233.6
54°	219.7	214.9	221.3	367.9	258.6	229.2
54.5°	215.7	211.3	217.7	340.4	243.1	225.6
55°	211.7	207.8	213.7	313.8	230.0	222.1
55.5°	208.2	204.2	210.1	290.8	222.1	218.1
56°	204.6	201.0	206.6	269.7	218.1	214.5
56.5°	201.0	197.4	203.0	253.4	214.1	210.9
57°	197.8	194.3	199.4	238.8	210.5	207.4
57.5°	194.3	190.7	196.2	226.8	207.0	203.8
58°	191.1	187.5	193.1	216.5	203.4	200.6
58.5°	187.9	184.3	189.5	208.2	199.8	197.0
59°	184.3	181.1	186.3	200.2	196.6	193.9
59.5°	181.1	178.0	183.1	193.5	193.1	190.3
60°	178.0	174.4	179.6	188.3	189.5	187.1
60.5°	174.8	171.2	176.8	184.3	186.3	183.5
61°	171.6	168.0	173.6	180.8	182.7	180.4
61.5°	168.0	164.9	170.4	177.2	179.6	176.8
62°	164.9	161.3	166.8	173.2	176.0	173.6
62.5°	161.7	158.1	163.7	169.6	172.8	170.0
63°	158.1	154.9	160.5	166.1	169.2	166.5
63.5°	154.9	151.4	156.9	162.5	165.7	163.3
64°	151.8	148.2	153.7	158.9	162.1	159.7
64.5°	148.2	145.4	150.2	155.3	158.5	156.5
65°	145.0	142.2	147.0	151.8	155.3	152.9
65.5°	141.4	139.0	143.0	148.6	151.8	149.4
66°	138.2	135.9	140.2	145.0	148.2	146.2



TEST NUMBER: P776532

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	128.3	125.9	131.1	134.3	137.8	136.3
68°	125.1	122.8	127.5	131.1	134.3	133.1
68.5°	121.6	119.6	124.3	127.5	130.7	129.9
69°	118.4	116.4	121.2	123.9	127.5	126.7
69.5°	114.8	113.2	117.6	120.4	123.9	123.1
70°	111.6	110.0	114.4	116.8	120.4	120.0
70.5°	108.5	106.9	110.8	113.2	116.8	116.4
71°	105.3	103.7	107.7	109.6	113.6	113.2
71.5°	101.7	100.5	104.5	106.1	110.0	109.6
72°	98.5	96.9	100.9	102.5	106.5	106.5
72.5°	94.9	93.8	97.3	98.9	102.9	102.9
73°	91.8	90.6	94.1	95.7	99.3	99.7
73.5°	88.2	87.0	90.6	92.2	95.7	96.1
74°	85.0	83.8	87.4	88.6	92.6	93.0
74.5°	81.4	80.6	83.8	85.0	89.0	89.4
75°	78.3	77.5	80.2	81.4	85.4	86.2
75.5°	74.7	73.9	77.1	77.9	81.4	82.6
76°	71.5	70.7	73.5	74.3	78.3	79.1
76.5°	67.9	67.5	70.3	70.7	74.7	75.9
77°	64.8	64.4	66.7	67.5	71.1	72.3
77.5°	61.2	61.2	63.6	64.0	67.5	69.1
78°	58.0	58.0	60.0	60.4	64.0	65.5
78.5°	54.4	54.4	56.8	56.8	60.4	62.4
79°	51.2	51.2	53.2	53.2	56.8	58.8
79.5°	47.7	48.1	49.7	49.7	53.2	55.6
80°	44.5	44.9	46.5	46.5	49.7	52.0
80.5°	40.9	41.7	42.9	42.9	46.1	48.9
81°	37.7	38.5	39.7	39.3	42.5	45.7
81.5°	34.6	35.4	36.5	36.2	38.9	42.1
82°	31.4	32.2	33.0	33.0	35.4	38.9
82.5°	28.2	28.6	29.8	29.8	32.2	35.4
83°	24.6	25.4	26.6	26.6	28.6	32.2
83.5°	21.5	22.2	23.0	23.4	24.6	28.6
84°	18.3	19.1	19.9	20.7	21.5	25.4
84.5°	15.5	16.3	16.7	17.5	17.9	22.2
85°	12.3	13.1	13.5	14.7	15.1	18.7
85.5°	9.1	9.9	10.7	11.9	12.7	15.5
86°	6.0	7.2	7.5	9.1	10.3	13.1
86.5°	3.2	4.0	4.4	6.4	7.5	10.3
87°	0.8	1.2	1.6	3.2	5.2	7.9
87.5°	0.0	0.0	0.4	1.2	3.2	5.6
88°	0.0	0.0	0.0	0.0	1.2	3.2
88.5°	0.0	0.0	0.0	0.0	0.0	1.2



TEST NUMBER: P776532

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

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



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Cooper Lighting Solutions Photometric Lab
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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°	2088.4	2121.0	2162.7	2186.5	2197.2	2203.6	2198.4	2179.3	2153.1	2125.7	2083.2
22°	2076.9	2110.6	2153.9	2177.8	2188.9	2195.6	2190.5	2170.6	2143.6	2115.4	2072.1



44°	819.9	1042.4	1488.9	1406.3	1141.7	1333.6	1550.5	1222.0	909.3	1046.0	1347.5
44.5°	766.7	987.2	1469.5	1349.9	1082.9	1275.2	1531.8	1165.5	854.9	988.4	1328.0



66.5°	143.0	150.2	158.1	157.3	150.2	152.9	152.1	147.8	139.0	140.6	135.9
67°	139.8	146.6	154.5	154.1	147.0	149.8	149.0	144.6	135.9	137.5	132.7



89°	0.0	2.4	8.3	11.9	11.1	10.3	7.5	3.6	1.2	0.0	0.0
89.5°	0.0	0.4	6.0	8.7	8.3	7.5	4.8	1.6	0.0	0.0	0.0

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21.5°	2050.6	2035.1	2034.0	2047.5	2065.7	2088.4
22°	2038.7	2022.4	2020.8	2035.9	2054.2	2076.9



44°	843.0	621.3	781.4	1291.5	1020.6	819.9
44.5°	790.9	573.6	729.8	1256.1	967.7	766.7



66.5°	135.1	132.7	137.1	141.4	144.6	143.0
67°	131.9	129.5	133.9	137.8	141.0	139.8

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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)