

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: P776378

Luminaire Tested: HCDJBL3040CSD-HCD62TRMB-4000lm-4000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776378
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B058)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD62TRMB-4000lm-4000K
Description: 6 INCH ROUND NARROW MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

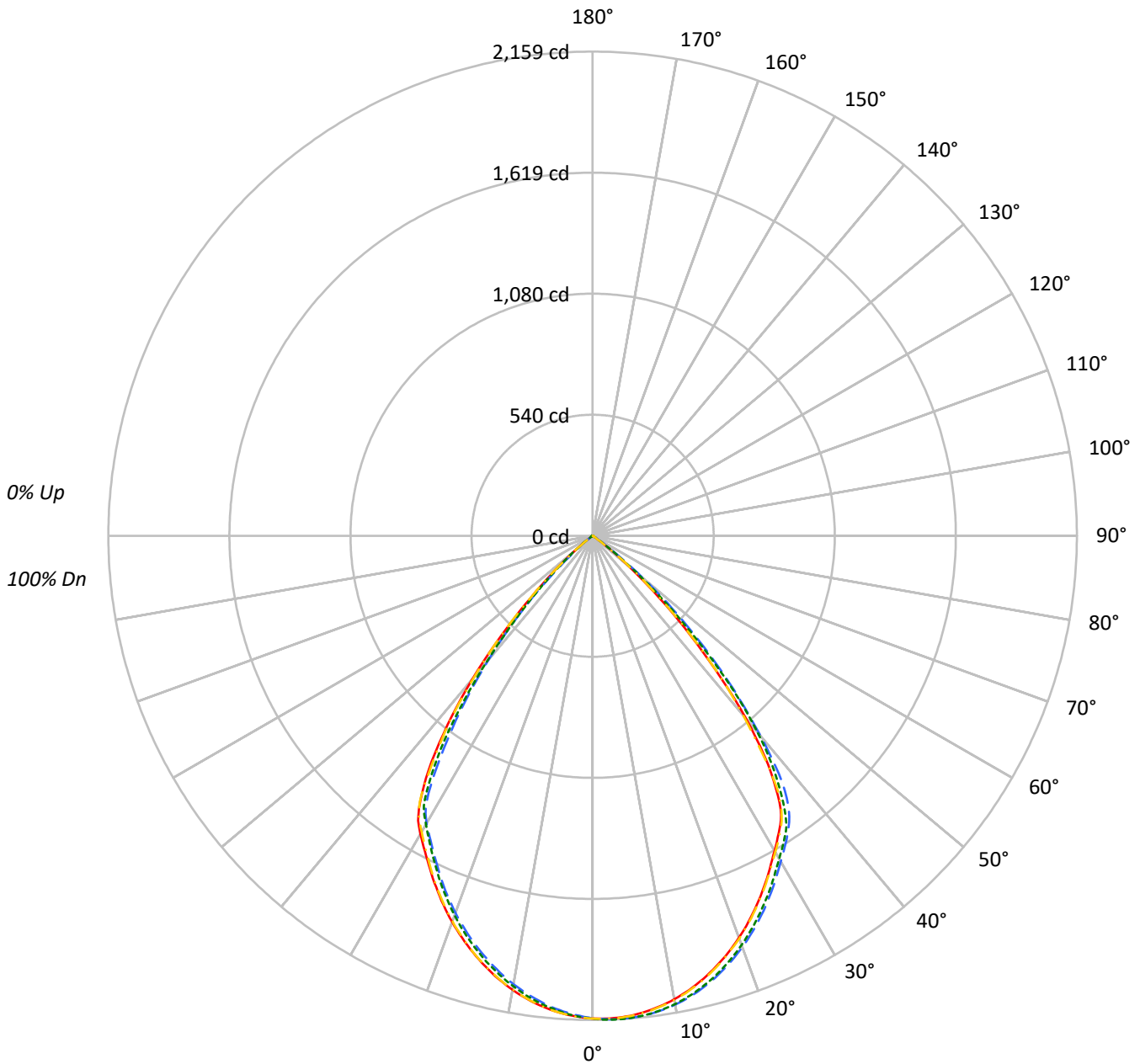
Lumens per Lamp: N/A
Luminaire Lumens: 2810.9 lumens
Efficiency: N/A
Efficacy: 73.0 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.11 / 1.11
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

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				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	100	100
1	113	110	107	105	111	108	105	103	104	102	100	100	98	97	97	95	94	92	92	92	92
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85	85	85	85
3	101	94	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77	77	77	77
4	95	86	80	76	93	85	80	75	83	78	74	81	77	73	79	75	72	71	71	71	71
5	89	80	73	69	87	79	73	68	77	72	68	75	71	67	74	70	66	65	65	65	65
6	84	74	67	63	82	73	67	62	72	66	62	70	65	62	69	64	61	60	60	60	60
7	79	69	62	57	78	68	62	57	67	61	57	65	60	57	64	60	56	55	55	55	55
8	75	64	57	53	73	63	57	53	62	57	52	61	56	52	60	56	52	51	51	51	51
9	70	60	53	49	69	59	53	49	58	53	49	57	52	48	56	52	48	47	47	47	47
10	67	56	50	45	66	55	49	45	55	49	45	54	49	45	53	48	45	44	44	44	44

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	118000	118000	118000	118000
5°	117989	118611	116789	116366
10°	116793	118006	114438	113536
15°	114518	116192	111068	109717
20°	111275	113293	106899	105085
25°	107178	109494	101933	99514
30°	102668	105295	97180	94116
35°	97152	99849	85280	80529
40°	76014	81810	59676	52899
45°	44702	51618	30135	26445
50°	17611	21287	8801	8836
55°	2581	3355	736	889
60°	570	614	526	439
65°	415	415	363	311
70°	321	321	256	256
75°	254	254	169	169
80°	126	126	126	126
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 57083 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.9	7.2
10°-20°	559.0	19.9
20°-30°	794.8	28.3
30°-40°	820.8	29.2
40°-50°	392.2	14.0
50°-60°	37.9	1.3
60°-70°	3.1	0.1
70°-80°	1.1	0.0
80°-90°	0.2	0.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1555.7	55.3
0°-40°	2376.5	84.5
0°-60°	2806.6	99.8
0°-90°	2810.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2810.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2152	2152	2152	2152	2152	
5°	2144	2155	2122	2115	2144	203
15°	2018	2047	1957	1933	2018	568
25°	1772	1810	1685	1645	1772	815
35°	1452	1492	1274	1203	1452	879
45°	577	666	389	341	577	452
55°	27	35	8	9	27	49
65°	3	3	3	2	3	3
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	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°	2152.5	2152.5	2152.5	2152.5	2152.5	2152.5	2152.5	2152.5	2152.5	2152.5	2152.5
0.5°	2152.9	2152.9	2153.3	2152.5	2155.8	2154.9	2153.7	2153.3	2150.9	2149.7	2148.1
1°	2153.7	2154.1	2154.9	2154.5	2157.4	2155.8	2154.5	2152.9	2149.3	2147.3	2145.7
1.5°	2153.7	2154.9	2156.2	2156.2	2158.2	2156.6	2154.9	2152.1	2146.9	2144.5	2142.0
2°	2153.7	2155.8	2157.4	2157.8	2159.4	2157.4	2154.5	2150.5	2144.9	2141.2	2138.4
2.5°	2152.9	2155.8	2158.2	2158.6	2159.4	2157.4	2154.1	2148.5	2142.0	2138.0	2134.4
3°	2151.7	2155.8	2158.2	2159.0	2159.4	2157.0	2152.9	2146.9	2138.8	2134.0	2129.9
3.5°	2150.5	2154.9	2158.2	2159.4	2159.0	2156.2	2151.7	2144.5	2135.6	2129.9	2125.1
4°	2148.9	2153.7	2157.4	2159.0	2158.2	2155.4	2150.1	2141.2	2131.6	2125.1	2119.9
4.5°	2146.9	2152.1	2156.6	2158.6	2157.4	2153.7	2148.1	2138.0	2127.5	2119.9	2114.6
5°	2144.1	2150.1	2155.4	2157.4	2155.4	2151.7	2145.7	2134.4	2122.3	2114.6	2109.0
5.5°	2141.2	2148.5	2154.1	2156.2	2153.3	2149.7	2142.9	2130.8	2117.0	2108.6	2102.5
6°	2138.0	2146.1	2152.1	2154.1	2151.3	2147.3	2139.6	2127.1	2111.8	2102.9	2095.7
6.5°	2134.0	2143.3	2149.7	2152.5	2148.5	2144.1	2136.4	2122.3	2106.2	2096.5	2088.4
7°	2129.9	2139.6	2146.9	2150.1	2145.7	2140.8	2132.4	2117.4	2100.1	2089.2	2081.2
7.5°	2125.5	2136.0	2143.7	2147.3	2142.0	2137.2	2128.3	2112.2	2093.7	2082.0	2073.5
8°	2121.1	2132.0	2140.4	2144.5	2138.8	2133.2	2123.5	2106.6	2086.4	2074.7	2065.8
8.5°	2115.8	2127.5	2136.4	2140.4	2134.4	2128.7	2118.7	2100.5	2079.1	2066.6	2057.4
9°	2110.2	2123.1	2132.4	2136.8	2129.9	2124.3	2113.0	2093.7	2072.3	2058.6	2048.9
9.5°	2104.5	2117.9	2127.9	2132.4	2125.1	2118.7	2107.4	2087.2	2064.2	2050.1	2039.6
10°	2098.1	2112.2	2122.7	2127.5	2119.9	2113.4	2101.3	2079.5	2055.8	2041.2	2030.7
10.5°	2091.6	2106.2	2117.4	2122.7	2114.2	2107.8	2094.9	2072.3	2047.3	2031.6	2021.1
11°	2084.8	2100.1	2112.2	2117.0	2108.2	2101.3	2088.0	2064.6	2038.4	2022.3	2011.0
11.5°	2077.9	2093.7	2105.8	2111.4	2101.7	2094.5	2081.2	2056.6	2029.5	2012.6	2000.5
12°	2070.3	2086.4	2099.7	2105.3	2094.9	2088.0	2073.5	2048.1	2019.9	2002.9	1990.4
12.5°	2061.8	2079.1	2092.8	2098.9	2088.0	2080.8	2065.4	2039.2	2010.2	1992.4	1979.1
13°	2053.7	2071.5	2085.6	2092.0	2080.3	2073.5	2057.4	2030.3	2000.1	1981.6	1968.6
13.5°	2045.3	2063.8	2077.9	2085.2	2072.7	2065.0	2049.3	2020.3	1989.2	1971.1	1957.4
14°	2036.4	2055.8	2070.3	2077.1	2064.6	2057.0	2040.0	2011.0	1978.7	1959.8	1945.7
14.5°	2027.1	2047.3	2061.8	2069.5	2055.8	2047.7	2030.7	2000.9	1967.8	1948.5	1933.6
15°	2017.8	2038.4	2053.7	2061.0	2047.3	2038.4	2021.5	1990.0	1957.0	1936.8	1921.5
15.5°	2008.2	2028.7	2045.3	2052.1	2038.4	2028.7	2011.4	1979.5	1945.7	1924.7	1909.8
16°	1997.7	2019.1	2035.6	2043.2	2028.7	2019.1	2001.3	1968.6	1933.6	1912.6	1897.3
16.5°	1987.2	2009.4	2025.9	2034.0	2019.1	2009.4	1991.2	1957.4	1921.9	1899.7	1884.8
17°	1976.7	1999.3	2015.8	2024.7	2008.6	1999.3	1980.3	1946.1	1909.8	1887.6	1871.5
17.5°	1965.8	1988.8	2006.2	2014.6	1998.1	1988.4	1969.5	1934.8	1897.3	1875.1	1858.2
18°	1954.9	1977.9	1995.7	2004.1	1987.2	1977.5	1958.2	1922.7	1884.8	1861.8	1844.4
18.5°	1943.6	1966.6	1984.8	1993.7	1976.3	1965.8	1946.1	1910.6	1871.9	1848.5	1831.1
19°	1931.1	1955.7	1974.3	1983.2	1965.0	1954.9	1934.8	1898.1	1859.0	1834.8	1817.4
19.5°	1919.5	1944.5	1963.0	1971.9	1953.7	1942.8	1923.1	1885.6	1845.7	1821.5	1802.9
20°	1907.4	1932.8	1951.7	1960.6	1942.0	1931.1	1911.0	1872.3	1832.4	1807.4	1788.4
20.5°	1894.9	1920.7	1940.0	1948.9	1929.9	1918.6	1898.5	1859.8	1818.2	1792.8	1773.9
21°	1882.8	1908.6	1927.9	1937.2	1917.0	1906.5	1885.6	1846.1	1804.1	1778.7	1759.0



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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°	1842.8	1870.3	1890.4	1899.3	1878.7	1867.8	1846.1	1804.9	1761.0	1734.0	1713.8
23°	1829.1	1856.1	1877.5	1886.8	1865.4	1854.5	1832.4	1790.8	1745.7	1718.6	1697.7
23.5°	1815.0	1842.8	1864.2	1873.1	1851.7	1840.8	1818.6	1776.3	1730.7	1703.3	1681.9
24°	1800.5	1828.7	1850.9	1860.6	1838.0	1827.1	1804.5	1761.8	1715.4	1688.0	1665.8
24.5°	1786.4	1815.4	1837.2	1846.9	1823.9	1813.0	1790.4	1747.3	1700.5	1671.9	1650.1
25°	1771.9	1800.9	1823.5	1832.8	1810.2	1798.9	1775.9	1732.3	1685.2	1656.5	1633.6
25.5°	1756.9	1786.4	1809.0	1818.6	1795.7	1784.4	1761.4	1717.4	1669.4	1640.4	1617.4
26°	1742.4	1772.7	1794.8	1804.5	1781.5	1769.8	1746.9	1702.1	1654.1	1624.7	1601.3
26.5°	1727.1	1758.2	1780.3	1790.4	1767.0	1754.9	1731.9	1687.2	1638.8	1608.5	1586.0
27°	1712.2	1743.6	1765.8	1775.9	1752.5	1740.4	1717.0	1671.9	1622.7	1593.2	1569.8
27.5°	1696.9	1728.3	1751.3	1761.0	1737.6	1725.5	1702.1	1656.1	1607.7	1577.9	1554.5
28°	1681.9	1713.4	1736.4	1746.5	1722.3	1711.0	1686.8	1641.2	1592.8	1563.4	1539.2
28.5°	1666.2	1698.5	1721.9	1731.1	1706.9	1695.7	1671.9	1626.7	1578.7	1548.5	1525.1
29°	1650.9	1683.6	1706.9	1716.6	1692.4	1680.7	1657.3	1611.8	1564.2	1533.5	1509.8
29.5°	1636.4	1668.6	1692.0	1702.1	1677.9	1666.2	1643.2	1597.7	1549.3	1518.6	1494.8
30°	1621.9	1654.1	1677.5	1687.2	1663.4	1652.1	1628.7	1583.1	1535.2	1504.1	1479.9
30.5°	1607.3	1639.6	1663.0	1672.7	1649.3	1637.6	1615.0	1569.4	1520.6	1488.8	1463.4
31°	1593.2	1625.9	1649.3	1658.6	1636.0	1623.9	1600.9	1555.3	1505.3	1472.7	1446.4
31.5°	1578.7	1611.8	1635.2	1644.8	1621.9	1610.2	1587.2	1540.8	1489.2	1452.9	1424.7
32°	1564.6	1597.7	1621.1	1630.7	1608.1	1596.5	1573.1	1525.5	1465.8	1426.3	1395.2
32.5°	1550.5	1583.5	1607.7	1617.4	1594.0	1582.7	1558.5	1508.9	1439.6	1395.2	1361.4
33°	1535.6	1569.4	1593.6	1602.9	1579.5	1567.0	1542.8	1489.2	1410.2	1359.7	1322.6
33.5°	1519.4	1554.9	1579.5	1589.6	1563.0	1551.3	1525.9	1465.0	1378.7	1321.8	1282.7
34°	1502.1	1538.8	1563.8	1574.3	1543.6	1532.7	1506.9	1438.0	1346.4	1281.5	1240.0
34.5°	1478.7	1521.4	1547.7	1557.7	1519.0	1511.0	1486.0	1407.3	1311.4	1242.0	1197.6
35°	1451.7	1500.9	1528.7	1537.2	1492.0	1485.2	1461.8	1375.5	1274.3	1202.1	1154.1
35.5°	1422.3	1477.9	1508.1	1513.0	1463.0	1456.9	1434.3	1341.2	1235.5	1161.8	1112.6
36°	1389.6	1450.1	1483.1	1485.6	1433.9	1426.3	1402.5	1304.9	1193.2	1122.6	1068.2
36.5°	1356.9	1420.2	1456.1	1456.1	1402.9	1392.8	1365.0	1265.8	1150.1	1083.5	1025.9
37°	1321.0	1385.6	1424.7	1425.1	1371.4	1357.7	1322.2	1225.5	1105.3	1041.2	983.1
37.5°	1283.1	1348.5	1389.6	1393.6	1337.6	1319.8	1276.3	1181.5	1062.2	999.2	940.8
38°	1242.4	1306.5	1348.5	1360.2	1303.3	1280.7	1226.7	1135.5	1017.0	954.5	896.8
38.5°	1199.7	1262.6	1306.1	1324.7	1265.0	1239.6	1179.1	1086.7	971.8	910.1	852.5
39°	1154.9	1214.6	1259.7	1287.6	1226.3	1195.6	1131.5	1039.2	925.9	863.8	808.9
39.5°	1109.3	1167.4	1210.9	1247.6	1185.1	1150.9	1086.7	988.4	881.1	818.6	765.8
40°	1062.2	1118.2	1163.0	1206.9	1143.2	1102.9	1041.6	938.0	833.9	773.0	721.8
40.5°	1014.2	1067.4	1115.4	1164.6	1099.2	1055.3	998.4	887.9	787.9	730.3	679.5
41°	963.4	1016.6	1068.6	1119.4	1056.1	1008.5	953.7	838.8	741.2	685.9	637.5
41.5°	912.9	969.4	1023.0	1073.4	1009.7	962.1	908.5	789.6	694.0	644.0	596.4
42°	861.3	921.8	976.7	1025.1	963.0	916.6	861.7	742.4	646.0	601.2	555.3
42.5°	811.7	874.2	931.9	977.9	913.4	871.4	813.8	696.4	599.2	558.9	514.1
43°	762.1	826.7	885.5	929.1	864.2	825.8	767.0	651.2	553.3	515.8	474.2
43.5°	715.0	779.9	840.0	881.5	813.3	780.7	721.4	606.5	509.3	474.6	435.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	576.6	640.4	700.4	736.3	665.8	643.6	589.5	483.1	388.7	358.5	327.0
45.5°	534.3	595.6	656.9	690.0	617.0	598.8	546.8	444.4	352.4	321.4	290.7
46°	491.2	552.4	612.5	643.2	570.6	554.9	504.9	408.9	316.1	283.9	254.4
46.5°	449.2	511.3	570.2	598.0	524.2	512.1	464.1	373.4	279.9	246.8	223.4
47°	408.9	471.8	527.8	553.3	479.9	469.4	422.6	337.9	249.2	215.7	193.6
47.5°	370.2	433.1	486.7	508.9	436.7	427.8	386.3	302.4	219.8	185.9	166.5
48°	333.5	395.6	446.4	465.3	399.2	388.7	350.0	266.9	192.3	157.7	141.9
48.5°	298.4	359.7	405.7	423.4	361.7	349.6	313.7	235.1	167.3	133.5	119.8
49°	265.3	324.6	367.0	381.9	324.2	310.5	277.8	205.7	144.0	111.7	100.0
49.5°	234.7	291.1	329.5	343.6	286.7	271.4	246.8	179.0	123.0	92.3	83.1
50°	206.5	258.9	293.2	306.1	249.6	235.9	214.9	153.2	103.2	76.2	68.1
50.5°	180.3	227.4	259.3	270.2	216.9	203.2	185.5	129.8	85.9	62.9	56.1
51°	155.2	197.6	225.4	237.1	187.1	172.2	157.7	109.3	70.2	54.0	48.0
51.5°	133.9	169.0	194.4	204.8	159.7	145.2	132.7	90.3	60.5	44.8	39.9
52°	115.7	143.2	166.1	175.8	133.5	120.2	107.7	73.4	50.8	35.9	31.9
52.5°	97.6	124.2	138.7	148.0	109.7	97.6	86.3	62.9	41.1	27.0	23.8
53°	79.4	104.8	119.4	127.8	87.9	78.2	67.7	52.4	31.5	18.1	15.7
53.5°	61.3	85.5	100.0	107.7	69.0	62.1	56.9	42.3	21.8	13.3	11.3
54°	48.4	66.1	80.6	87.9	57.7	51.6	46.0	32.3	12.1	9.7	8.5
54.5°	36.7	47.2	61.3	67.7	46.4	41.5	35.5	21.8	8.9	7.7	7.3
55°	27.0	34.3	41.9	48.0	35.1	31.5	24.6	11.7	7.7	6.9	6.9
55.5°	18.5	24.6	30.2	35.1	23.4	21.4	13.7	8.5	6.9	6.9	6.5
56°	12.5	16.5	20.6	24.6	12.1	11.3	9.7	7.3	6.9	6.5	6.0
56.5°	10.9	14.5	13.7	16.1	8.9	8.5	7.7	6.9	6.5	6.0	6.0
57°	9.3	12.5	12.1	13.7	7.7	7.3	7.3	6.9	6.0	6.0	5.6
57.5°	7.7	10.5	10.1	11.3	7.3	6.9	6.9	6.5	6.0	5.6	5.2
58°	6.5	8.5	8.5	9.3	6.9	6.9	6.5	6.0	5.6	5.2	5.2
58.5°	6.0	6.5	6.9	6.9	6.5	6.5	6.5	6.0	5.2	5.2	4.8
59°	5.6	6.0	6.5	6.5	6.0	6.0	6.0	5.6	5.2	4.8	4.8
59.5°	5.6	6.0	6.0	6.5	6.0	6.0	5.6	5.2	4.8	4.8	4.4
60°	5.2	5.6	6.0	6.0	5.6	5.6	5.6	5.2	4.8	4.4	4.4
60.5°	4.8	5.2	5.6	5.6	5.2	5.2	5.2	4.8	4.4	4.4	4.0
61°	4.8	5.2	5.2	5.6	5.2	5.2	4.8	4.4	4.0	4.0	4.0
61.5°	4.4	4.8	5.2	5.2	4.8	4.8	4.8	4.4	4.0	4.0	3.6
62°	4.4	4.4	4.8	4.8	4.4	4.4	4.4	4.0	3.6	3.6	3.6
62.5°	4.0	4.4	4.4	4.8	4.4	4.4	4.4	4.0	3.6	3.6	3.2
63°	4.0	4.0	4.4	4.4	4.0	4.0	4.0	3.6	3.6	3.2	3.2
63.5°	3.6	4.0	4.0	4.4	4.0	4.0	4.0	3.6	3.2	3.2	3.2
64°	3.6	3.6	4.0	4.0	3.6	3.6	3.6	3.2	3.2	3.2	2.8
64.5°	3.2	3.6	3.6	4.0	3.6	3.6	3.6	3.2	2.8	2.8	2.8
65°	3.2	3.2	3.6	3.6	3.2	3.2	3.2	3.2	2.8	2.8	2.8
65.5°	2.8	3.2	3.2	3.6	3.2	3.2	3.2	2.8	2.8	2.8	2.4
66°	2.8	3.2	3.2	3.2	3.2	3.2	2.8	2.8	2.4	2.4	2.4



TEST NUMBER: P776378

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	2.4	2.4	2.8	2.8	2.8	2.8	2.4	2.4	2.0	2.0	2.0
68°	2.4	2.4	2.8	2.8	2.4	2.4	2.4	2.4	2.0	2.0	2.0
68.5°	2.0	2.4	2.4	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0
69°	2.0	2.4	2.4	2.4	2.4	2.4	2.4	2.0	2.0	2.0	1.6
69.5°	2.0	2.0	2.4	2.4	2.0	2.0	2.0	2.0	1.6	1.6	1.6
70°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.6
70.5°	1.6	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.6	1.6
71°	1.6	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.6	1.6	1.6
71.5°	1.6	1.6	2.0	2.0	1.6	1.6	1.6	1.6	1.2	1.2	1.2
72°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.2	1.2	1.2
72.5°	1.2	1.6	1.6	1.6	1.6	1.6	1.6	1.2	1.2	1.2	1.2
73°	1.2	1.6	1.6	1.6	1.6	1.6	1.6	1.2	1.2	1.2	1.2
73.5°	1.2	1.2	1.6	1.6	1.2	1.2	1.2	1.2	1.2	1.2	1.2
74°	1.2	1.2	1.2	1.6	1.2	1.2	1.2	1.2	1.2	0.8	0.8
74.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8
75°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8
75.5°	0.8	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8	0.8
76°	0.8	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8	0.8
76.5°	0.8	0.8	1.2	1.2	0.8	0.8	0.8	0.8	0.8	0.8	0.8
77°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
77.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.8
78°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4
78.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4
79°	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4
79.5°	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4
80°	0.4	0.4	0.8	0.8	0.4	0.4	0.4	0.4	0.4	0.4	0.4
80.5°	0.4	0.4	0.4	0.8	0.4	0.4	0.4	0.4	0.4	0.4	0.4
81°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
81.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
82°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
82.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0
83°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0
83.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
84°	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776378
CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-4000lm-4000K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776378

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2152.5	2152.5	2152.5	2152.5	2152.5	2152.5
0.5°	2147.3	2151.7	2151.3	2151.3	2152.9	2152.9
1°	2144.1	2148.9	2148.9	2149.7	2152.1	2153.7
1.5°	2140.4	2146.1	2146.1	2147.7	2150.9	2153.7
2°	2136.4	2142.9	2143.3	2145.3	2149.7	2153.7
2.5°	2132.0	2138.8	2139.6	2142.0	2148.1	2152.9
3°	2127.5	2134.8	2136.0	2138.8	2145.7	2151.7
3.5°	2122.3	2130.4	2131.6	2135.2	2142.9	2150.5
4°	2116.6	2125.5	2127.1	2131.2	2140.0	2148.9
4.5°	2111.0	2120.3	2122.3	2126.7	2136.8	2146.9
5°	2105.3	2114.6	2117.0	2121.9	2133.2	2144.1
5.5°	2098.5	2109.0	2111.4	2117.0	2128.7	2141.2
6°	2091.6	2102.5	2104.9	2111.4	2124.3	2138.0
6.5°	2084.4	2096.1	2098.9	2105.3	2119.9	2134.0
7°	2077.1	2089.2	2092.4	2099.3	2114.6	2129.9
7.5°	2069.1	2082.0	2085.2	2092.8	2109.0	2125.5
8°	2060.6	2074.3	2077.9	2085.6	2102.9	2121.1
8.5°	2052.1	2065.8	2069.9	2078.7	2096.9	2115.8
9°	2042.8	2057.4	2061.8	2071.1	2090.4	2110.2
9.5°	2033.6	2048.9	2053.3	2062.6	2083.6	2104.5
10°	2024.7	2039.6	2044.5	2054.5	2075.9	2098.1
10.5°	2014.6	2030.7	2035.6	2045.7	2068.3	2091.6
11°	2004.5	2020.7	2025.9	2037.2	2059.8	2084.8
11.5°	1994.1	2011.0	2016.2	2027.9	2052.1	2077.9
12°	1983.2	2000.9	2006.2	2018.2	2043.7	2070.3
12.5°	1972.3	1990.0	1996.1	2008.2	2034.4	2061.8
13°	1961.0	1979.5	1985.6	1998.1	2024.7	2053.7
13.5°	1949.3	1968.2	1974.7	1987.6	2015.8	2045.3
14°	1937.6	1957.0	1963.8	1977.1	2005.7	2036.4
14.5°	1925.9	1945.3	1952.5	1966.2	1996.1	2027.1
15°	1913.4	1933.2	1940.4	1954.9	1985.2	2017.8
15.5°	1900.9	1921.5	1928.7	1943.2	1974.7	2008.2
16°	1888.4	1909.0	1916.2	1931.6	1963.8	1997.7
16.5°	1875.1	1896.1	1903.7	1919.9	1952.5	1987.2
17°	1862.2	1883.6	1891.2	1907.8	1940.8	1976.7
17.5°	1848.5	1870.3	1878.3	1894.9	1929.1	1965.8
18°	1834.8	1856.9	1865.4	1882.4	1917.4	1954.9
18.5°	1821.5	1843.2	1851.7	1869.0	1904.9	1943.6
19°	1806.9	1829.5	1838.0	1855.7	1892.4	1931.1
19.5°	1792.4	1815.4	1824.3	1842.4	1879.9	1919.5
20°	1777.5	1801.3	1809.8	1828.7	1866.6	1907.4
20.5°	1763.0	1786.4	1795.7	1815.0	1853.7	1894.9
21°	1748.1	1771.5	1780.7	1800.5	1840.0	1882.8

TEST NUMBER: P776378

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1701.3	1725.9	1735.6	1756.5	1798.9	1842.8
23°	1685.2	1710.2	1720.2	1741.6	1784.0	1829.1
23.5°	1669.4	1694.0	1704.5	1726.3	1769.4	1815.0
24°	1652.9	1677.9	1688.8	1711.0	1754.5	1800.5
24.5°	1637.2	1661.8	1673.1	1695.2	1740.0	1786.4
25°	1620.6	1645.2	1656.5	1679.1	1724.7	1771.9
25.5°	1604.1	1629.1	1640.8	1663.4	1709.4	1756.9
26°	1588.0	1612.6	1624.3	1647.7	1694.0	1742.4
26.5°	1571.9	1596.5	1608.1	1631.5	1678.3	1727.1
27°	1555.7	1579.9	1592.0	1615.4	1663.0	1712.2
27.5°	1540.4	1563.8	1575.9	1600.1	1647.3	1696.9
28°	1525.1	1547.7	1559.8	1584.4	1631.9	1681.9
28.5°	1509.8	1532.3	1544.4	1569.0	1616.2	1666.2
29°	1494.8	1517.4	1529.5	1554.1	1601.3	1650.9
29.5°	1479.5	1502.1	1514.2	1539.6	1586.8	1636.4
30°	1464.2	1486.8	1499.3	1525.1	1571.9	1621.9
30.5°	1447.7	1471.0	1483.9	1509.8	1557.7	1607.3
31°	1430.3	1455.7	1468.6	1494.4	1543.6	1593.2
31.5°	1404.9	1439.2	1452.1	1479.1	1529.1	1578.7
32°	1375.1	1419.8	1433.1	1462.2	1513.8	1564.6
32.5°	1341.6	1391.6	1406.5	1441.2	1498.1	1550.5
33°	1302.9	1357.3	1375.9	1414.6	1480.7	1535.6
33.5°	1262.6	1319.8	1342.0	1380.3	1456.1	1519.4
34°	1221.0	1282.7	1304.1	1339.2	1427.9	1502.1
34.5°	1179.5	1243.6	1263.0	1297.6	1395.6	1478.7
35°	1136.8	1203.3	1217.8	1255.3	1359.7	1451.7
35.5°	1091.6	1162.6	1172.2	1213.8	1323.5	1422.3
36°	1045.6	1117.8	1127.5	1173.0	1285.1	1389.6
36.5°	998.4	1072.6	1081.5	1132.3	1244.0	1356.9
37°	952.1	1025.1	1036.7	1091.6	1202.1	1321.0
37.5°	905.3	978.3	992.8	1048.8	1158.5	1283.1
38°	860.5	929.5	947.6	1002.9	1115.4	1242.4
38.5°	815.8	882.7	903.7	956.9	1071.0	1199.7
39°	771.4	835.5	859.3	910.1	1029.1	1154.9
39.5°	727.5	787.9	814.2	863.4	985.5	1109.3
40°	683.1	739.2	769.0	816.6	942.0	1062.2
40.5°	638.7	692.8	724.2	773.4	895.2	1014.2
41°	595.2	648.0	679.9	729.9	849.6	963.4
41.5°	553.3	604.5	636.7	687.9	801.3	912.9
42°	510.5	562.9	594.8	646.8	753.3	861.3
42.5°	471.4	521.0	553.3	604.9	705.7	811.7
43°	433.9	482.7	512.9	561.7	658.9	762.1
43.5°	400.8	444.4	473.4	519.4	612.5	715.0



TEST NUMBER: P776378

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	302.4	341.1	359.7	398.8	479.1	576.6
45.5°	269.8	310.1	325.4	361.7	436.7	534.3
46°	239.1	280.3	293.2	325.8	396.0	491.2
46.5°	212.9	252.0	261.7	289.9	356.5	449.2
47°	188.3	226.2	232.7	256.1	318.2	408.9
47.5°	165.7	201.2	204.8	223.4	283.1	370.2
48°	144.0	177.8	179.4	191.5	250.0	333.5
48.5°	123.8	156.1	155.7	162.9	219.8	298.4
49°	105.7	137.1	135.9	136.3	191.5	265.3
49.5°	89.1	120.2	118.6	118.2	165.7	234.7
50°	74.2	103.6	100.8	100.4	141.5	206.5
50.5°	60.9	86.7	83.5	82.3	124.2	180.3
51°	51.6	70.2	65.7	64.5	106.9	155.2
51.5°	42.3	57.3	53.2	52.8	89.5	133.9
52°	33.5	46.0	42.7	42.7	71.8	115.7
52.5°	24.2	35.5	33.1	34.3	54.8	97.6
53°	14.9	26.2	25.0	26.6	43.6	79.4
53.5°	10.1	18.5	18.1	19.8	33.9	61.3
54°	7.7	12.5	12.5	14.1	25.4	48.4
54.5°	6.9	10.9	10.9	12.1	18.5	36.7
55°	6.5	9.3	9.3	10.1	12.9	27.0
55.5°	6.0	7.7	7.7	8.1	11.3	18.5
56°	6.0	6.0	6.0	6.5	9.7	12.5
56.5°	5.6	6.0	5.6	6.0	7.7	10.9
57°	5.2	5.6	5.6	5.6	6.0	9.3
57.5°	5.2	5.2	5.2	5.6	6.0	7.7
58°	4.8	5.2	5.2	5.2	5.6	6.5
58.5°	4.8	4.8	4.8	4.8	5.6	6.0
59°	4.4	4.8	4.4	4.8	5.2	5.6
59.5°	4.4	4.4	4.4	4.4	4.8	5.6
60°	4.0	4.0	4.0	4.0	4.8	5.2
60.5°	4.0	4.0	4.0	4.0	4.4	4.8
61°	3.6	3.6	3.6	3.6	4.0	4.8
61.5°	3.6	3.6	3.6	3.6	4.0	4.4
62°	3.2	3.6	3.2	3.6	3.6	4.4
62.5°	3.2	3.2	3.2	3.2	3.6	4.0
63°	2.8	3.2	3.2	3.2	3.2	4.0
63.5°	2.8	2.8	2.8	2.8	3.2	3.6
64°	2.8	2.8	2.8	2.8	3.2	3.6
64.5°	2.4	2.8	2.4	2.8	2.8	3.2
65°	2.4	2.4	2.4	2.4	2.8	3.2
65.5°	2.4	2.4	2.4	2.4	2.8	2.8
66°	2.4	2.4	2.4	2.4	2.4	2.8



TEST NUMBER: P776378

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	2.0	2.0	2.0	2.0	2.0	2.4
68°	2.0	2.0	1.6	2.0	2.0	2.4
68.5°	1.6	1.6	1.6	1.6	2.0	2.0
69°	1.6	1.6	1.6	1.6	2.0	2.0
69.5°	1.6	1.6	1.6	1.6	1.6	2.0
70°	1.6	1.6	1.6	1.6	1.6	2.0
70.5°	1.2	1.6	1.2	1.2	1.6	1.6
71°	1.2	1.2	1.2	1.2	1.6	1.6
71.5°	1.2	1.2	1.2	1.2	1.2	1.6
72°	1.2	1.2	1.2	1.2	1.2	1.6
72.5°	1.2	1.2	1.2	1.2	1.2	1.2
73°	1.2	1.2	1.2	1.2	1.2	1.2
73.5°	0.8	0.8	0.8	0.8	1.2	1.2
74°	0.8	0.8	0.8	0.8	1.2	1.2
74.5°	0.8	0.8	0.8	0.8	0.8	1.2
75°	0.8	0.8	0.8	0.8	0.8	1.2
75.5°	0.8	0.8	0.8	0.8	0.8	0.8
76°	0.8	0.8	0.8	0.8	0.8	0.8
76.5°	0.8	0.8	0.8	0.8	0.8	0.8
77°	0.8	0.8	0.4	0.4	0.8	0.8
77.5°	0.4	0.4	0.4	0.4	0.8	0.8
78°	0.4	0.4	0.4	0.4	0.4	0.8
78.5°	0.4	0.4	0.4	0.4	0.4	0.8
79°	0.4	0.4	0.4	0.4	0.4	0.4
79.5°	0.4	0.4	0.4	0.4	0.4	0.4
80°	0.4	0.4	0.4	0.4	0.4	0.4
80.5°	0.4	0.4	0.4	0.4	0.4	0.4
81°	0.4	0.4	0.4	0.4	0.4	0.4
81.5°	0.4	0.4	0.4	0.4	0.4	0.4
82°	0.4	0.4	0.4	0.4	0.4	0.4
82.5°	0.0	0.4	0.4	0.0	0.4	0.4
83°	0.0	0.0	0.0	0.0	0.0	0.4
83.5°	0.0	0.0	0.0	0.0	0.0	0.4
84°	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776378

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-4000lm-4000K

CANDELA DISTRIBUTION (continued):

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



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Cooper Lighting Solutions Photometric Lab
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Scaled Data Report





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

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21.5°	1869.5	1895.3	1915.0	1924.7	1904.5	1894.0	1872.7	1832.4	1789.6	1764.2	1744.0
22°	1855.7	1882.8	1903.3	1912.2	1891.6	1880.7	1859.4	1818.6	1775.5	1749.3	1728.7



44°	667.8	732.7	793.2	832.7	764.6	735.1	676.6	564.1	467.0	433.1	399.6
44.5°	622.2	685.9	747.2	784.3	714.6	689.6	633.1	523.4	425.4	396.0	363.3



66.5°	2.8	2.8	3.2	3.2	2.8	2.8	2.8	2.8	2.4	2.4	2.4
67°	2.4	2.8	2.8	2.8	2.8	2.8	2.8	2.4	2.4	2.4	2.0



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

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21.5°	1732.7	1756.1	1766.2	1786.0	1826.7	1869.5
22°	1716.6	1740.4	1750.9	1771.5	1812.6	1855.7



44°	368.2	408.5	433.9	477.8	567.8	667.8
44.5°	335.1	373.8	396.8	438.3	522.6	622.2

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66.5°	2.0	2.0	2.0	2.0	2.4	2.8
67°	2.0	2.0	2.0	2.0	2.4	2.4

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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)