

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: P776377

Luminaire Tested: HCDJBL3040CSD-HCD62TRMB-4000lm-3500K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776377
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: HCDJBS3040CSD-HCD62TRMB-4000lm-3500K
Description: 6 INCH ROUND NARROW MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

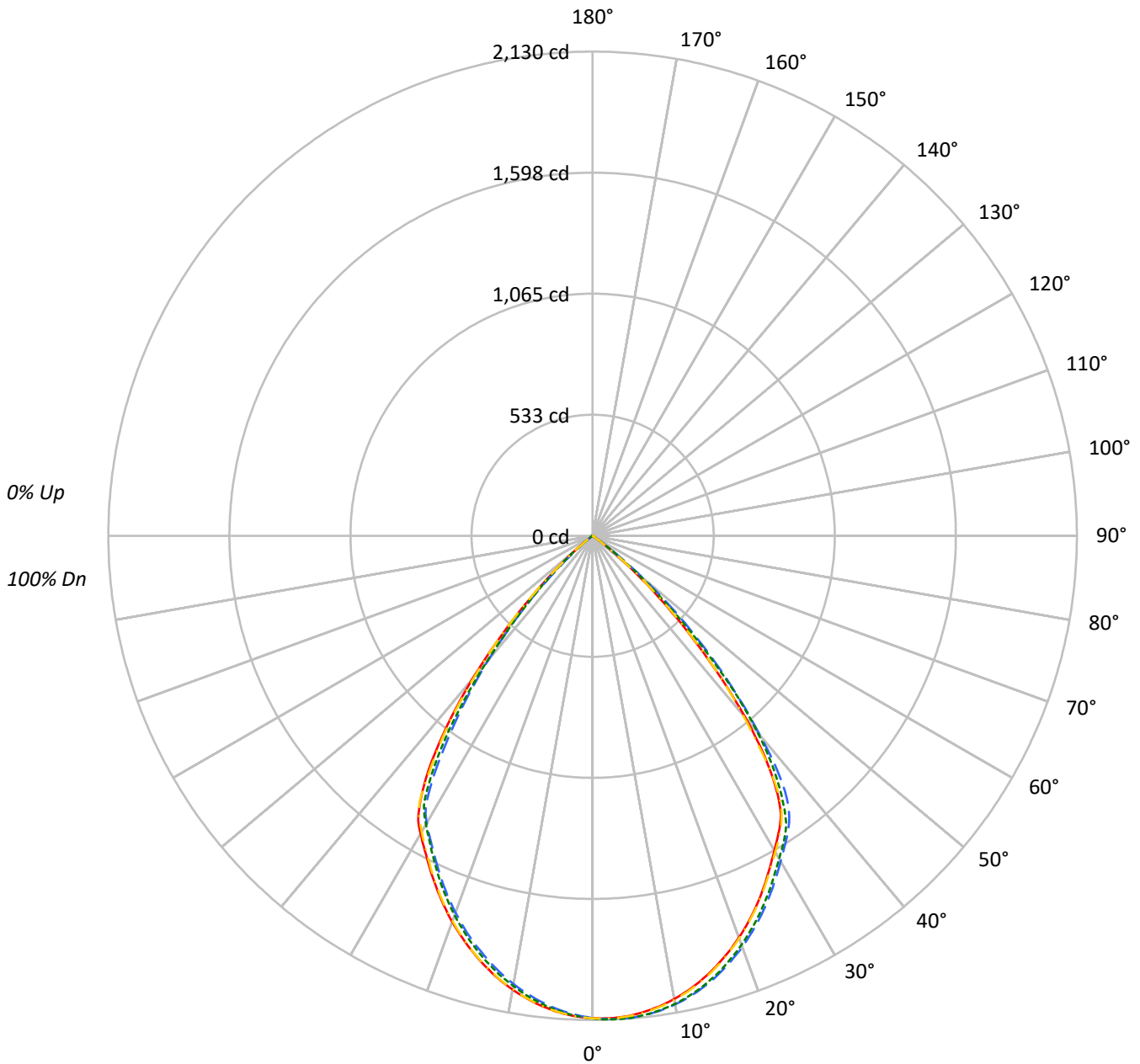
Lumens per Lamp: N/A
Luminaire Lumens: 2772.1 lumens
Efficiency: N/A
Efficacy: 72.0 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.11 / 1.11
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

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°	116372	116372	116372	116372
5°	116355	116971	115177	114759
10°	115178	116375	112851	111966
15°	112940	114586	109530	108196
20°	109735	111730	105417	103632
25°	105696	107982	100524	98141
30°	101243	103839	95831	92812
35°	95807	98471	84096	79418
40°	74962	80680	58853	52162
45°	44090	50905	29724	26080
50°	17364	20997	8682	8716
55°	2542	3307	726	870
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: 56300 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.1	7.2
10°-20°	551.3	19.9
20°-30°	783.8	28.3
30°-40°	809.4	29.2
40°-50°	386.8	14.0
50°-60°	37.4	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°	1534.2	55.3
0°-40°	2343.6	84.5
0°-60°	2767.8	99.8
0°-90°	2772.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2772.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2123	2123	2123	2123	2123	
5°	2114	2126	2093	2085	2114	200
15°	1990	2019	1930	1906	1990	560
25°	1747	1785	1662	1622	1747	803
35°	1432	1471	1257	1187	1432	867
45°	569	657	383	336	569	446
55°	27	35	8	9	27	48
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°	2122.8	2122.8	2122.8	2122.8	2122.8	2122.8	2122.8	2122.8	2122.8	2122.8	2122.8
0.5°	2123.2	2123.2	2123.6	2122.8	2126.0	2125.2	2124.0	2123.6	2121.2	2120.0	2118.4
1°	2124.0	2124.4	2125.2	2124.8	2127.6	2126.0	2124.8	2123.2	2119.6	2117.6	2116.0
1.5°	2124.0	2125.2	2126.4	2126.4	2128.3	2126.8	2125.2	2122.4	2117.2	2114.8	2112.4
2°	2124.0	2126.0	2127.6	2128.0	2129.5	2127.6	2124.8	2120.8	2115.2	2111.6	2108.9
2.5°	2123.2	2126.0	2128.3	2128.7	2129.5	2127.6	2124.4	2118.8	2112.4	2108.5	2104.9
3°	2122.0	2126.0	2128.3	2129.1	2129.5	2127.2	2123.2	2117.2	2109.3	2104.5	2100.5
3.5°	2120.8	2125.2	2128.3	2129.5	2129.1	2126.4	2122.0	2114.8	2106.1	2100.5	2095.7
4°	2119.2	2124.0	2127.6	2129.1	2128.3	2125.6	2120.4	2111.6	2102.1	2095.7	2090.6
4.5°	2117.2	2122.4	2126.8	2128.7	2127.6	2124.0	2118.4	2108.5	2098.1	2090.6	2085.4
5°	2114.4	2120.4	2125.6	2127.6	2125.6	2122.0	2116.0	2104.9	2093.0	2085.4	2079.8
5.5°	2111.6	2118.8	2124.4	2126.4	2123.6	2120.0	2113.2	2101.3	2087.8	2079.4	2073.5
6°	2108.5	2116.4	2122.4	2124.4	2121.6	2117.6	2110.1	2097.7	2082.6	2073.9	2066.7
6.5°	2104.5	2113.6	2120.0	2122.8	2118.8	2114.4	2106.9	2093.0	2077.0	2067.5	2059.6
7°	2100.5	2110.1	2117.2	2120.4	2116.0	2111.2	2102.9	2088.2	2071.1	2060.3	2052.4
7.5°	2096.1	2106.5	2114.0	2117.6	2112.4	2107.7	2098.9	2083.0	2064.7	2053.2	2044.8
8°	2091.8	2102.5	2110.9	2114.8	2109.3	2103.7	2094.1	2077.4	2057.6	2046.0	2037.3
8.5°	2086.6	2098.1	2106.9	2110.9	2104.9	2099.3	2089.4	2071.5	2050.4	2038.1	2028.9
9°	2081.0	2093.8	2102.9	2107.3	2100.5	2094.9	2083.8	2064.7	2043.6	2030.1	2020.6
9.5°	2075.5	2088.6	2098.5	2102.9	2095.7	2089.4	2078.2	2058.4	2035.7	2021.8	2011.4
10°	2069.1	2083.0	2093.4	2098.1	2090.6	2084.2	2072.3	2050.8	2027.3	2013.0	2002.7
10.5°	2062.7	2077.0	2088.2	2093.4	2085.0	2078.6	2065.9	2043.6	2019.0	2003.5	1993.1
11°	2056.0	2071.1	2083.0	2087.8	2079.0	2072.3	2059.2	2036.1	2010.2	1994.3	1983.2
11.5°	2049.2	2064.7	2076.7	2082.2	2072.7	2065.5	2052.4	2028.1	2001.5	1984.8	1972.9
12°	2041.7	2057.6	2070.7	2076.3	2065.9	2059.2	2044.8	2019.8	1991.9	1975.2	1962.9
12.5°	2033.3	2050.4	2063.9	2069.9	2059.2	2052.0	2036.9	2011.0	1982.4	1964.9	1951.8
13°	2025.4	2042.8	2056.8	2063.1	2051.6	2044.8	2028.9	2002.3	1972.5	1954.2	1941.4
13.5°	2017.0	2035.3	2049.2	2056.4	2044.0	2036.5	2021.0	1992.3	1961.7	1943.8	1930.3
14°	2008.3	2027.3	2041.7	2048.4	2036.1	2028.5	2011.8	1983.2	1951.4	1932.7	1918.8
14.5°	1999.1	2019.0	2033.3	2040.9	2027.3	2019.4	2002.7	1973.3	1940.6	1921.6	1906.8
15°	1990.0	2010.2	2025.4	2032.5	2019.0	2010.2	1993.5	1962.5	1929.9	1910.0	1894.9
15.5°	1980.4	2000.7	2017.0	2023.8	2010.2	2000.7	1983.6	1952.2	1918.8	1898.1	1883.4
16°	1970.1	1991.2	2007.5	2015.0	2000.7	1991.2	1973.7	1941.4	1906.8	1886.2	1871.1
16.5°	1959.7	1981.6	1997.9	2005.9	1991.2	1981.6	1963.7	1930.3	1895.3	1873.4	1858.7
17°	1949.4	1971.7	1988.0	1996.7	1980.8	1971.7	1953.0	1919.2	1883.4	1861.5	1845.6
17.5°	1938.7	1961.3	1978.4	1986.8	1970.5	1960.9	1942.2	1908.0	1871.1	1849.2	1832.5
18°	1927.9	1950.6	1968.1	1976.4	1959.7	1950.2	1931.1	1896.1	1858.7	1836.1	1819.0
18.5°	1916.8	1939.5	1957.3	1966.1	1949.0	1938.7	1919.2	1884.2	1846.0	1822.9	1805.8
19°	1904.5	1928.7	1947.0	1955.8	1937.9	1927.9	1908.0	1871.8	1833.3	1809.4	1792.3
19.5°	1892.9	1917.6	1935.9	1944.6	1926.7	1916.0	1896.5	1859.5	1820.2	1796.3	1778.0
20°	1881.0	1906.0	1924.7	1933.5	1915.2	1904.5	1884.6	1846.4	1807.0	1782.4	1763.7
20.5°	1868.7	1894.1	1913.2	1922.0	1903.3	1892.1	1872.2	1834.1	1793.1	1768.1	1749.4
21°	1856.7	1882.2	1901.3	1910.4	1890.5	1880.2	1859.5	1820.5	1779.2	1754.1	1734.7



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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°	1817.4	1844.4	1864.3	1873.0	1852.8	1842.0	1820.5	1780.0	1736.6	1710.0	1690.1
23°	1803.8	1830.5	1851.6	1860.7	1839.6	1828.9	1807.0	1766.1	1721.5	1694.9	1674.2
23.5°	1789.9	1817.4	1838.4	1847.2	1826.1	1815.4	1793.5	1751.8	1706.8	1679.8	1658.7
24°	1775.6	1803.4	1825.3	1834.9	1812.6	1801.9	1779.6	1737.4	1691.7	1664.7	1642.8
24.5°	1761.7	1790.3	1811.8	1821.3	1798.7	1787.9	1765.7	1723.1	1677.0	1648.8	1627.3
25°	1747.4	1776.0	1798.3	1807.4	1785.2	1774.0	1751.4	1708.4	1661.9	1633.6	1611.0
25.5°	1732.7	1761.7	1784.0	1793.5	1770.8	1759.7	1737.0	1693.7	1646.4	1617.7	1595.1
26°	1718.3	1748.2	1770.0	1779.6	1756.9	1745.4	1722.7	1678.6	1631.3	1602.2	1579.2
26.5°	1703.2	1733.9	1755.7	1765.7	1742.6	1730.7	1708.0	1663.9	1616.1	1586.3	1564.0
27°	1688.5	1719.5	1741.4	1751.4	1728.3	1716.4	1693.3	1648.8	1600.2	1571.2	1548.1
27.5°	1673.4	1704.4	1727.1	1736.6	1713.6	1701.6	1678.6	1633.2	1585.5	1556.1	1533.0
28°	1658.7	1689.7	1712.4	1722.3	1698.5	1687.3	1663.5	1618.5	1570.8	1541.8	1517.9
28.5°	1643.2	1675.0	1698.1	1707.2	1683.4	1672.2	1648.8	1604.2	1556.9	1527.1	1504.0
29°	1628.1	1660.3	1683.4	1692.9	1669.0	1657.5	1634.4	1589.5	1542.6	1512.4	1488.9
29.5°	1613.8	1645.6	1668.6	1678.6	1654.7	1643.2	1620.5	1575.6	1527.9	1497.6	1474.2
30°	1599.4	1631.3	1654.3	1663.9	1640.4	1629.3	1606.2	1561.3	1513.9	1483.3	1459.5
30.5°	1585.1	1616.9	1640.0	1649.5	1626.5	1615.0	1592.7	1547.7	1499.6	1468.2	1443.2
31°	1571.2	1603.4	1626.5	1635.6	1613.4	1601.4	1578.8	1533.8	1484.5	1452.3	1426.5
31.5°	1556.9	1589.5	1612.6	1622.1	1599.4	1587.9	1565.2	1519.5	1468.6	1432.8	1405.0
32°	1543.0	1575.6	1598.6	1608.2	1585.9	1574.4	1551.3	1504.4	1445.5	1406.6	1376.0
32.5°	1529.1	1561.7	1585.5	1595.1	1572.0	1560.9	1537.0	1488.1	1419.7	1376.0	1342.5
33°	1514.3	1547.7	1571.6	1580.8	1557.7	1545.4	1521.5	1468.6	1390.7	1341.0	1304.4
33.5°	1498.4	1533.4	1557.7	1567.6	1541.4	1529.8	1504.8	1444.7	1359.6	1303.6	1265.0
34°	1481.3	1517.5	1542.2	1552.5	1522.3	1511.6	1486.1	1418.1	1327.8	1263.8	1222.8
34.5°	1458.3	1500.4	1526.3	1536.2	1498.0	1490.1	1465.4	1387.9	1293.2	1224.8	1181.1
35°	1431.6	1480.1	1507.6	1515.9	1471.4	1464.6	1441.6	1356.5	1256.6	1185.5	1138.1
35.5°	1402.6	1457.5	1487.3	1492.1	1442.8	1436.8	1414.5	1322.7	1218.5	1145.7	1097.2
36°	1370.4	1430.0	1462.6	1465.0	1414.1	1406.6	1383.1	1286.9	1176.7	1107.1	1053.4
36.5°	1338.2	1400.6	1436.0	1436.0	1383.5	1373.6	1346.1	1248.3	1134.2	1068.5	1011.7
37°	1302.8	1366.4	1405.0	1405.4	1352.5	1339.0	1304.0	1208.5	1090.0	1026.8	969.5
37.5°	1265.4	1329.8	1370.4	1374.4	1319.1	1301.6	1258.6	1165.2	1047.5	985.4	927.8
38°	1225.2	1288.5	1329.8	1341.4	1285.3	1263.0	1209.7	1119.8	1002.9	941.3	884.4
38.5°	1183.1	1245.1	1288.1	1306.4	1247.5	1222.4	1162.8	1071.7	958.4	897.5	840.7
39°	1138.9	1197.8	1242.3	1269.8	1209.3	1179.1	1115.9	1024.8	913.1	851.8	797.7
39.5°	1094.0	1151.3	1194.2	1230.4	1168.8	1135.0	1071.7	974.7	868.9	807.3	755.2
40°	1047.5	1102.7	1146.9	1190.2	1127.4	1087.6	1027.2	925.0	822.4	762.3	711.8
40.5°	1000.1	1052.6	1100.0	1148.5	1084.1	1040.7	984.6	875.7	777.1	720.2	670.1
41°	950.0	1002.5	1053.8	1103.9	1041.5	994.6	940.5	827.2	730.9	676.4	628.7
41.5°	900.3	956.0	1008.9	1058.6	995.8	948.8	896.0	778.6	684.4	635.1	588.2
42°	849.4	909.1	963.2	1010.9	949.6	903.9	849.8	732.1	637.1	592.9	547.6
42.5°	800.5	862.2	919.0	964.4	900.7	859.4	802.5	686.8	590.9	551.2	507.0
43°	751.6	815.2	873.3	916.2	852.2	814.4	756.4	642.2	545.6	508.6	467.7
43.5°	705.1	769.1	828.4	869.3	802.1	769.9	711.4	598.1	502.3	468.1	429.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	568.7	631.5	690.8	726.2	656.6	634.7	581.4	476.4	383.4	353.5	322.5
45.5°	526.9	587.4	647.8	680.4	608.4	590.5	539.2	438.2	347.6	316.9	286.7
46°	484.4	544.8	604.1	634.3	562.7	547.2	497.9	403.2	311.8	280.0	250.9
46.5°	443.0	504.2	562.3	589.7	517.0	505.0	457.7	368.2	276.0	243.4	220.3
47°	403.2	465.3	520.6	545.6	473.2	462.9	416.8	333.3	245.8	212.8	190.9
47.5°	365.1	427.1	480.0	501.9	430.7	421.9	381.0	298.3	216.7	183.3	164.2
48°	328.9	390.1	440.2	458.9	393.7	383.4	345.2	263.3	189.7	155.5	140.0
48.5°	294.3	354.7	400.1	417.6	356.7	344.8	309.4	231.8	165.0	131.6	118.1
49°	261.7	320.1	361.9	376.6	319.7	306.2	274.0	202.8	142.0	110.2	98.6
49.5°	231.4	287.1	324.9	338.8	282.7	267.6	243.4	176.6	121.3	91.1	81.9
50°	203.6	255.3	289.1	301.8	246.2	232.6	212.0	151.1	101.8	75.2	67.2
50.5°	177.8	224.3	255.7	266.4	213.9	200.4	182.9	128.1	84.7	62.0	55.3
51°	153.1	194.9	222.3	233.8	184.5	169.8	155.5	107.8	69.2	53.3	47.3
51.5°	132.0	166.6	191.7	202.0	157.5	143.2	130.8	89.1	59.7	44.1	39.4
52°	114.1	141.2	163.8	173.4	131.6	118.5	106.2	72.4	50.1	35.4	31.4
52.5°	96.2	122.5	136.8	145.9	108.2	96.2	85.1	62.0	40.6	26.6	23.5
53°	78.3	103.4	117.7	126.1	86.7	77.1	66.8	51.7	31.0	17.9	15.5
53.5°	60.4	84.3	98.6	106.2	68.0	61.2	56.1	41.8	21.5	13.1	11.1
54°	47.7	65.2	79.5	86.7	56.9	50.9	45.3	31.8	11.9	9.5	8.4
54.5°	36.2	46.5	60.4	66.8	45.7	41.0	35.0	21.5	8.7	7.6	7.2
55°	26.6	33.8	41.4	47.3	34.6	31.0	24.3	11.5	7.6	6.8	6.8
55.5°	18.3	24.3	29.8	34.6	23.1	21.1	13.5	8.4	6.8	6.8	6.4
56°	12.3	16.3	20.3	24.3	11.9	11.1	9.5	7.2	6.8	6.4	6.0
56.5°	10.7	14.3	13.5	15.9	8.7	8.4	7.6	6.8	6.4	6.0	6.0
57°	9.1	12.3	11.9	13.5	7.6	7.2	7.2	6.8	6.0	6.0	5.6
57.5°	7.6	10.3	9.9	11.1	7.2	6.8	6.8	6.4	6.0	5.6	5.2
58°	6.4	8.4	8.4	9.1	6.8	6.8	6.4	6.0	5.6	5.2	5.2
58.5°	6.0	6.4	6.8	6.8	6.4	6.4	6.4	6.0	5.2	5.2	4.8
59°	5.6	6.0	6.4	6.4	6.0	6.0	6.0	5.6	5.2	4.8	4.8
59.5°	5.6	6.0	6.0	6.4	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: P776377

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-4000lm-3500K

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: P776377

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776377

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2122.8	2122.8	2122.8	2122.8	2122.8	2122.8
0.5°	2117.6	2122.0	2121.6	2121.6	2123.2	2123.2
1°	2114.4	2119.2	2119.2	2120.0	2122.4	2124.0
1.5°	2110.9	2116.4	2116.4	2118.0	2121.2	2124.0
2°	2106.9	2113.2	2113.6	2115.6	2120.0	2124.0
2.5°	2102.5	2109.3	2110.1	2112.4	2118.4	2123.2
3°	2098.1	2105.3	2106.5	2109.3	2116.0	2122.0
3.5°	2093.0	2100.9	2102.1	2105.7	2113.2	2120.8
4°	2087.4	2096.1	2097.7	2101.7	2110.5	2119.2
4.5°	2081.8	2091.0	2093.0	2097.3	2107.3	2117.2
5°	2076.3	2085.4	2087.8	2092.6	2103.7	2114.4
5.5°	2069.5	2079.8	2082.2	2087.8	2099.3	2111.6
6°	2062.7	2073.5	2075.9	2082.2	2094.9	2108.5
6.5°	2055.6	2067.1	2069.9	2076.3	2090.6	2104.5
7°	2048.4	2060.3	2063.5	2070.3	2085.4	2100.5
7.5°	2040.5	2053.2	2056.4	2063.9	2079.8	2096.1
8°	2032.1	2045.6	2049.2	2056.8	2073.9	2091.8
8.5°	2023.8	2037.3	2041.3	2050.0	2067.9	2086.6
9°	2014.6	2028.9	2033.3	2042.5	2061.5	2081.0
9.5°	2005.5	2020.6	2025.0	2034.1	2054.8	2075.5
10°	1996.7	2011.4	2016.2	2026.1	2047.2	2069.1
10.5°	1986.8	2002.7	2007.5	2017.4	2039.7	2062.7
11°	1976.8	1992.7	1997.9	2009.0	2031.3	2056.0
11.5°	1966.5	1983.2	1988.4	1999.9	2023.8	2049.2
12°	1955.8	1973.3	1978.4	1990.4	2015.4	2041.7
12.5°	1945.0	1962.5	1968.5	1980.4	2006.3	2033.3
13°	1933.9	1952.2	1958.1	1970.5	1996.7	2025.4
13.5°	1922.4	1941.0	1947.4	1960.1	1988.0	2017.0
14°	1910.8	1929.9	1936.7	1949.8	1978.0	2008.3
14.5°	1899.3	1918.4	1925.5	1939.1	1968.5	1999.1
15°	1887.0	1906.4	1913.6	1927.9	1957.7	1990.0
15.5°	1874.6	1894.9	1902.1	1916.4	1947.4	1980.4
16°	1862.3	1882.6	1889.7	1904.9	1936.7	1970.1
16.5°	1849.2	1869.9	1877.4	1893.3	1925.5	1959.7
17°	1836.5	1857.5	1865.1	1881.4	1914.0	1949.4
17.5°	1822.9	1844.4	1852.4	1868.7	1902.5	1938.7
18°	1809.4	1831.3	1839.6	1856.3	1890.9	1927.9
18.5°	1796.3	1817.8	1826.1	1843.2	1878.6	1916.8
19°	1782.0	1804.2	1812.6	1830.1	1866.3	1904.5
19.5°	1767.7	1790.3	1799.1	1817.0	1854.0	1892.9
20°	1752.9	1776.4	1784.8	1803.4	1840.8	1881.0
20.5°	1738.6	1761.7	1770.8	1789.9	1828.1	1868.7
21°	1723.9	1747.0	1756.1	1775.6	1814.6	1856.7

TEST NUMBER: P776377

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1677.8	1702.0	1711.6	1732.3	1774.0	1817.4
23°	1661.9	1686.5	1696.5	1717.6	1759.3	1803.8
23.5°	1646.4	1670.6	1681.0	1702.4	1745.0	1789.9
24°	1630.1	1654.7	1665.5	1687.3	1730.3	1775.6
24.5°	1614.6	1638.8	1649.9	1671.8	1716.0	1761.7
25°	1598.2	1622.5	1633.6	1655.9	1700.8	1747.4
25.5°	1581.9	1606.6	1618.1	1640.4	1685.7	1732.7
26°	1566.0	1590.3	1601.8	1624.9	1670.6	1718.3
26.5°	1550.1	1574.4	1585.9	1609.0	1655.1	1703.2
27°	1534.2	1558.1	1570.0	1593.1	1640.0	1688.5
27.5°	1519.1	1542.2	1554.1	1578.0	1624.5	1673.4
28°	1504.0	1526.3	1538.2	1562.5	1609.4	1658.7
28.5°	1488.9	1511.2	1523.1	1547.3	1593.9	1643.2
29°	1474.2	1496.4	1508.4	1532.6	1579.2	1628.1
29.5°	1459.1	1481.3	1493.3	1518.3	1564.8	1613.8
30°	1444.0	1466.2	1478.5	1504.0	1550.1	1599.4
30.5°	1427.6	1450.7	1463.4	1488.9	1536.2	1585.1
31°	1410.5	1435.6	1448.3	1473.8	1522.3	1571.2
31.5°	1385.5	1419.3	1432.0	1458.7	1508.0	1556.9
32°	1356.1	1400.2	1413.3	1442.0	1492.9	1543.0
32.5°	1323.1	1372.4	1387.1	1421.3	1477.4	1529.1
33°	1284.9	1338.6	1356.9	1395.0	1460.3	1514.3
33.5°	1245.1	1301.6	1323.5	1361.2	1436.0	1498.4
34°	1204.2	1265.0	1286.1	1320.7	1408.2	1481.3
34.5°	1163.2	1226.4	1245.5	1279.7	1376.3	1458.3
35°	1121.0	1186.7	1201.0	1238.0	1341.0	1431.6
35.5°	1076.5	1146.5	1156.0	1197.0	1305.2	1402.6
36°	1031.2	1102.4	1111.9	1156.8	1267.4	1370.4
36.5°	984.6	1057.8	1066.6	1116.7	1226.8	1338.2
37°	938.9	1010.9	1022.4	1076.5	1185.5	1302.8
37.5°	892.8	964.8	979.1	1034.3	1142.5	1265.4
38°	848.6	916.6	934.5	989.0	1100.0	1225.2
38.5°	804.5	870.5	891.2	943.7	1056.2	1183.1
39°	760.7	824.0	847.4	897.5	1014.9	1138.9
39.5°	717.4	777.1	802.9	851.4	971.9	1094.0
40°	673.7	728.9	758.4	805.3	929.0	1047.5
40.5°	629.9	683.2	714.2	762.7	882.8	1000.1
41°	587.0	639.1	670.5	719.8	837.9	950.0
41.5°	545.6	596.1	627.9	678.4	790.2	900.3
42°	503.5	555.2	586.6	637.9	742.9	849.4
42.5°	464.9	513.8	545.6	596.5	695.9	800.5
43°	427.9	476.0	505.8	554.0	649.8	751.6
43.5°	395.3	438.2	466.9	512.2	604.1	705.1



TEST NUMBER: P776377

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	298.3	336.4	354.7	393.3	472.4	568.7
45.5°	266.0	305.8	320.9	356.7	430.7	526.9
46°	235.8	276.4	289.1	321.3	390.5	484.4
46.5°	210.0	248.5	258.1	285.9	351.5	443.0
47°	185.7	223.1	229.5	252.5	313.8	403.2
47.5°	163.4	198.4	202.0	220.3	279.2	365.1
48°	142.0	175.4	177.0	188.9	246.6	328.9
48.5°	122.1	153.9	153.5	160.7	216.7	294.3
49°	104.2	135.2	134.0	134.4	188.9	261.7
49.5°	87.9	118.5	116.9	116.5	163.4	231.4
50°	73.2	102.2	99.4	99.0	139.6	203.6
50.5°	60.0	85.5	82.3	81.1	122.5	177.8
51°	50.9	69.2	64.8	63.6	105.4	153.1
51.5°	41.8	56.5	52.5	52.1	88.3	132.0
52°	33.0	45.3	42.2	42.2	70.8	114.1
52.5°	23.9	35.0	32.6	33.8	54.1	96.2
53°	14.7	25.8	24.7	26.2	42.9	78.3
53.5°	9.9	18.3	17.9	19.5	33.4	60.4
54°	7.6	12.3	12.3	13.9	25.1	47.7
54.5°	6.8	10.7	10.7	11.9	18.3	36.2
55°	6.4	9.1	9.1	9.9	12.7	26.6
55.5°	6.0	7.6	7.6	8.0	11.1	18.3
56°	6.0	6.0	6.0	6.4	9.5	12.3
56.5°	5.6	6.0	5.6	6.0	7.6	10.7
57°	5.2	5.6	5.6	5.6	6.0	9.1
57.5°	5.2	5.2	5.2	5.6	6.0	7.6
58°	4.8	5.2	5.2	5.2	5.6	6.4
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: P776377

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-4000lm-3500K

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: P776377

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRMB-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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Scaled Data Report





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

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Scaled Data Report



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21.5°	1843.6	1869.1	1888.6	1898.1	1878.2	1867.9	1846.8	1807.0	1764.9	1739.8	1719.9
22°	1830.1	1856.7	1877.0	1885.8	1865.5	1854.7	1833.7	1793.5	1751.0	1725.1	1704.8



44°	658.5	722.6	782.2	821.2	754.0	725.0	667.3	556.3	460.5	427.1	394.1
44.5°	613.6	676.4	736.9	773.5	704.7	680.0	624.3	516.2	419.5	390.5	358.3



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°	1708.8	1731.9	1741.8	1761.3	1801.5	1843.6
22°	1692.9	1716.4	1726.7	1747.0	1787.5	1830.1



44°	363.1	402.8	427.9	471.2	559.9	658.5
44.5°	330.5	368.6	391.3	432.3	515.4	613.6

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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)