

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: P776398

Luminaire Tested: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-4000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776398
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B013)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-4000K
Description: 6 INCH ROUND MEDIUM LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

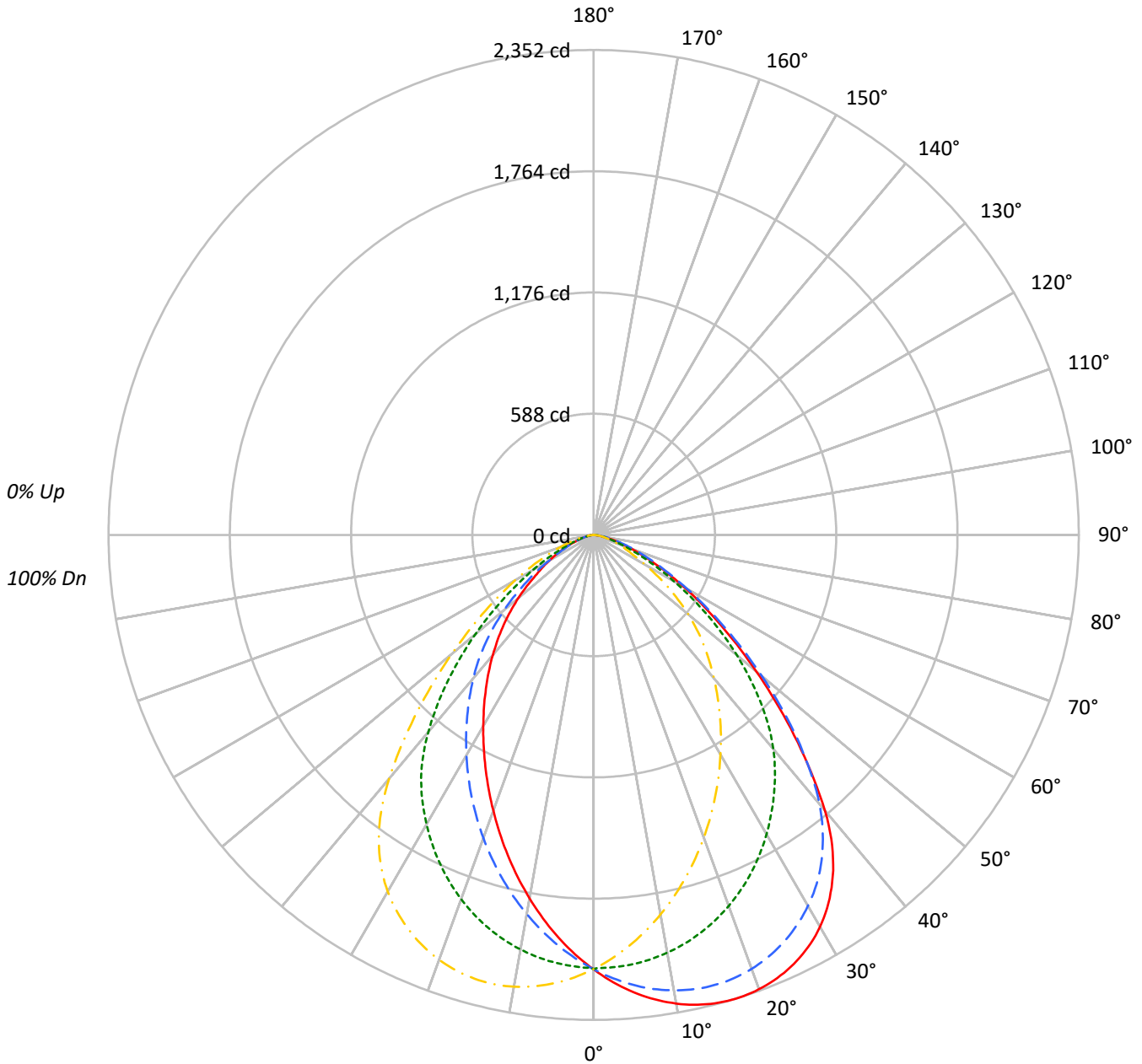
Lumens per Lamp: N/A
Luminaire Lumens: 4139.8 lumens
Efficiency: N/A
Efficacy: 107.5 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.17 / 1.23
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

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									
RC	80									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																			
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	89																			
2	103	96	90	86	100	94	89	85	91	87	83	88	84	81	85	82	79	77																			
3	95	86	79	74	93	85	78	73	82	76	72	79	75	71	77	73	70	68																			
4	88	78	70	64	86	77	69	64	74	68	63	72	67	62	70	65	62	60																			
5	82	70	63	57	80	69	62	56	67	61	56	66	60	55	64	59	55	53																			
6	76	64	56	51	74	63	56	50	62	55	50	60	54	49	58	53	49	47																			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	45	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																			
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	115435	115435	115435	115435
5°	122529	115100	107847	114660
10°	128477	114527	99631	113631
15°	133275	113400	91238	111981
20°	136786	111724	82992	109630
25°	138855	109283	75083	106482
30°	138907	106073	67757	102554
35°	135285	102084	60954	97607
40°	124791	96960	54423	89231
45°	106577	88606	47803	77365
50°	87818	77302	40698	63793
55°	70449	63711	32974	49843
60°	55368	49360	27224	37376
65°	42080	36178	21273	26708
70°	31063	25389	15820	18417
75°	22028	17665	11777	12115
80°	13859	12596	8398	7640
85°	4592	9875	4340	3774

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 109577 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	198.4	4.8
10°-20°	558.4	13.5
20°-30°	816.3	19.7
30°-40°	917.4	22.2
40°-50°	791.3	19.1
50°-60°	508.2	12.3
60°-70°	246.5	6.0
70°-80°	88.2	2.1
80°-90°	15.3	0.4
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°	1573.1	38.0
0°-40°	2490.4	60.2
0°-60°	3789.9	91.5
0°-90°	4139.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4139.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2106	2106	2106	2106	2106	
5°	2227	2092	1960	2084	2227	215
15°	2348	1998	1608	1973	2348	664
25°	2296	1807	1241	1760	2296	1057
35°	2022	1525	911	1458	2022	1253
45°	1375	1143	617	998	1375	1060
55°	737	667	345	522	737	666
65°	324	279	164	206	324	328
75°	104	83	56	57	104	114
85°	7	16	7	6	7	14
90°	0	1	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°	2105.7	2105.7	2105.7	2105.7	2105.7	2105.7	2105.7	2105.7	2105.7	2105.7	2105.7
0.5°	2121.4	2119.8	2116.6	2111.8	2100.5	2097.7	2096.1	2095.3	2094.4	2094.9	2097.3
1°	2133.9	2131.9	2125.9	2116.6	2100.5	2092.8	2086.4	2082.8	2080.3	2081.6	2086.8
1.5°	2146.8	2144.0	2134.7	2121.4	2100.5	2086.8	2076.3	2069.5	2066.2	2068.3	2076.7
2°	2159.3	2155.7	2143.6	2126.3	2100.1	2081.1	2066.2	2056.2	2052.1	2055.4	2065.8
2.5°	2171.4	2166.6	2152.5	2130.3	2099.3	2075.1	2055.4	2042.5	2037.2	2041.3	2055.0
3°	2183.1	2177.5	2160.1	2134.3	2098.1	2069.1	2044.9	2028.8	2021.9	2027.1	2043.7
3.5°	2194.4	2187.9	2168.6	2138.4	2096.9	2062.6	2033.6	2014.2	2007.0	2013.0	2032.8
4°	2205.3	2198.8	2175.9	2141.6	2095.3	2055.8	2022.3	1999.7	1991.3	1998.5	2021.1
4.5°	2216.2	2208.1	2183.5	2144.8	2093.6	2048.5	2010.6	1985.2	1975.6	1984.0	2009.4
5°	2226.6	2218.2	2190.4	2147.6	2091.6	2041.7	1998.9	1970.3	1959.8	1968.7	1997.3
5.5°	2236.3	2227.0	2197.2	2150.5	2089.2	2033.6	1986.8	1955.4	1943.7	1953.8	1985.2
6°	2246.0	2235.9	2203.7	2152.9	2086.8	2025.9	1974.8	1939.7	1926.8	1938.5	1972.7
6.5°	2254.8	2244.4	2209.7	2154.9	2084.0	2018.3	1961.9	1924.4	1910.7	1922.8	1960.2
7°	2263.7	2252.4	2215.4	2156.9	2080.7	2009.8	1949.4	1908.7	1893.7	1907.5	1947.3
7.5°	2272.2	2260.1	2221.0	2158.1	2077.5	2001.4	1936.5	1892.5	1876.8	1891.7	1934.5
8°	2279.8	2267.7	2225.8	2159.3	2073.9	1992.9	1923.2	1876.8	1859.5	1875.2	1921.2
8.5°	2287.5	2275.0	2230.7	2160.5	2070.3	1984.0	1909.5	1859.9	1842.6	1859.1	1907.9
9°	2294.7	2281.4	2235.1	2160.9	2066.2	1974.8	1896.2	1843.8	1824.8	1843.0	1894.6
9.5°	2301.6	2287.9	2239.1	2161.8	2061.8	1965.5	1882.5	1827.3	1807.1	1826.0	1880.4
10°	2308.0	2293.9	2242.8	2161.8	2057.4	1955.8	1868.8	1810.7	1789.8	1809.5	1867.1
10.5°	2314.1	2299.6	2246.4	2161.3	2052.5	1946.1	1854.7	1793.8	1772.4	1793.0	1853.0
11°	2319.7	2304.4	2249.6	2160.9	2047.7	1936.1	1840.1	1776.5	1753.9	1776.1	1838.9
11.5°	2324.6	2309.3	2252.0	2160.1	2042.1	1925.6	1825.6	1759.5	1735.8	1759.1	1824.4
12°	2329.4	2313.3	2254.4	2158.9	2036.8	1915.5	1811.1	1742.2	1718.0	1742.2	1810.3
12.5°	2333.8	2317.3	2256.5	2157.7	2030.8	1904.6	1796.6	1724.9	1699.9	1724.5	1795.8
13°	2337.5	2320.5	2258.1	2156.1	2025.1	1894.2	1781.7	1707.6	1681.4	1707.6	1780.9
13.5°	2341.1	2323.8	2259.3	2153.7	2018.7	1883.3	1766.8	1690.2	1663.2	1690.2	1766.4
14°	2343.9	2326.2	2260.1	2151.7	2012.2	1872.0	1751.5	1672.1	1644.7	1672.9	1751.5
14.5°	2346.3	2328.6	2260.1	2148.9	2005.4	1860.7	1736.2	1654.4	1626.6	1654.8	1736.2
15°	2348.3	2330.2	2260.5	2145.6	1998.1	1849.0	1720.9	1636.6	1607.6	1637.4	1720.9
15.5°	2350.0	2331.4	2260.1	2142.4	1991.3	1837.3	1705.1	1619.3	1589.5	1620.1	1705.5
16°	2351.2	2332.6	2259.3	2139.2	1983.6	1825.6	1689.8	1601.2	1570.9	1602.4	1690.2
16.5°	2352.0	2332.6	2258.5	2135.2	1976.0	1813.1	1673.7	1583.0	1552.4	1584.6	1674.9
17°	2352.4	2332.6	2256.9	2130.7	1967.9	1801.1	1658.4	1565.3	1533.9	1566.9	1659.2
17.5°	2352.0	2332.6	2254.8	2125.9	1959.8	1788.6	1642.3	1547.2	1514.9	1548.8	1643.5
18°	2351.6	2331.8	2252.8	2121.4	1951.4	1776.1	1626.1	1529.0	1496.8	1531.4	1627.8
18.5°	2350.4	2330.6	2249.6	2115.8	1942.5	1763.2	1610.0	1511.3	1478.2	1513.3	1611.6
19°	2349.2	2329.0	2246.8	2110.6	1933.2	1750.3	1593.9	1493.2	1459.7	1495.2	1595.9
19.5°	2347.1	2327.0	2243.2	2104.5	1924.4	1737.4	1578.2	1475.0	1441.2	1477.8	1580.2
20°	2344.7	2324.6	2239.5	2098.1	1915.1	1724.1	1562.1	1457.3	1422.6	1460.1	1564.1
20.5°	2341.9	2321.3	2235.1	2091.6	1905.0	1710.8	1545.1	1439.6	1404.9	1442.0	1548.0
21°	2338.7	2318.1	2230.7	2084.8	1895.0	1697.1	1528.6	1421.4	1386.0	1424.2	1531.4



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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°	2326.2	2305.6	2214.5	2061.8	1863.9	1655.6	1479.9	1368.2	1331.5	1371.0	1482.7
23°	2320.9	2300.4	2208.1	2053.7	1853.0	1641.5	1462.9	1350.1	1313.0	1353.3	1466.2
23.5°	2315.7	2294.7	2201.6	2045.3	1841.8	1627.4	1446.4	1332.8	1295.3	1335.6	1449.6
24°	2309.3	2288.7	2194.4	2036.0	1830.5	1612.8	1429.9	1314.6	1277.1	1317.8	1433.5
24.5°	2302.8	2282.3	2187.1	2027.1	1818.8	1598.7	1413.0	1297.3	1259.0	1300.1	1417.0
25°	2295.6	2275.4	2179.1	2017.5	1806.7	1584.2	1396.0	1279.2	1241.3	1282.8	1400.5
25.5°	2287.9	2267.7	2171.0	2007.8	1795.0	1569.3	1379.9	1262.2	1223.9	1265.5	1383.9
26°	2280.2	2260.1	2162.6	1997.3	1782.5	1554.4	1363.4	1244.5	1206.6	1248.1	1367.0
26.5°	2271.4	2251.6	2153.3	1987.2	1770.0	1539.5	1346.5	1227.2	1188.9	1230.4	1350.5
27°	2262.5	2242.8	2143.6	1976.0	1757.5	1524.6	1329.5	1209.8	1171.6	1213.5	1334.0
27.5°	2252.8	2233.5	2133.9	1965.1	1744.2	1509.3	1313.0	1193.3	1154.2	1196.1	1317.4
28°	2242.8	2223.4	2123.5	1953.4	1730.9	1494.0	1296.5	1176.0	1137.3	1179.2	1300.9
28.5°	2231.9	2213.3	2112.6	1941.7	1717.6	1478.6	1280.0	1159.1	1120.4	1162.3	1284.4
29°	2220.2	2202.5	2101.3	1929.2	1703.9	1463.3	1263.0	1141.7	1103.8	1145.4	1267.5
29.5°	2207.7	2190.8	2090.0	1917.1	1690.2	1447.6	1246.5	1125.6	1086.9	1128.0	1250.9
30°	2194.4	2178.7	2077.9	1904.6	1675.7	1432.3	1229.6	1108.7	1070.4	1111.5	1234.0
30.5°	2180.7	2165.8	2065.4	1890.9	1661.6	1416.6	1213.5	1092.2	1053.9	1094.6	1217.5
31°	2166.6	2152.1	2052.5	1877.6	1647.5	1400.5	1196.9	1076.0	1037.8	1078.1	1201.0
31.5°	2151.3	2137.6	2039.2	1863.9	1632.2	1384.7	1180.4	1059.5	1021.2	1061.5	1184.0
32°	2136.0	2122.3	2025.1	1849.8	1617.7	1369.0	1163.9	1043.4	1005.5	1045.0	1167.9
32.5°	2119.0	2106.1	2010.2	1835.3	1602.8	1352.9	1147.4	1027.3	989.4	1028.9	1151.4
33°	2100.5	2089.6	1994.9	1820.8	1587.5	1336.4	1130.8	1011.6	973.7	1012.8	1134.1
33.5°	2081.1	2072.3	1978.8	1805.9	1572.5	1320.3	1114.7	995.8	958.0	996.2	1117.5
34°	2062.6	2054.6	1961.9	1790.2	1556.8	1304.1	1098.2	979.7	942.2	980.9	1101.4
34.5°	2042.1	2035.2	1944.1	1774.1	1541.1	1288.0	1082.1	964.0	926.1	964.8	1084.9
35°	2021.5	2015.5	1926.0	1757.9	1525.4	1271.9	1066.0	948.3	910.8	948.7	1068.4
35.5°	1999.3	1995.3	1907.0	1741.0	1509.7	1255.4	1049.8	933.0	895.5	933.4	1051.9
36°	1975.6	1973.5	1887.7	1723.7	1493.6	1239.3	1034.1	917.7	880.6	917.7	1035.7
36.5°	1951.4	1951.4	1867.6	1705.1	1476.6	1222.7	1018.0	901.9	864.9	901.9	1019.2
37°	1925.6	1928.0	1846.6	1686.6	1460.5	1206.6	1001.9	886.6	850.0	886.2	1003.1
37.5°	1899.0	1903.4	1824.8	1666.9	1443.6	1189.7	986.2	871.7	834.6	870.9	986.6
38°	1871.2	1878.4	1802.3	1647.1	1426.3	1173.2	970.0	856.4	819.7	855.6	970.5
38.5°	1841.4	1852.2	1778.9	1626.6	1408.9	1157.0	954.3	841.5	805.2	840.3	954.3
39°	1811.1	1824.8	1754.7	1605.2	1391.6	1140.1	939.0	826.2	790.3	825.0	938.6
39.5°	1778.5	1795.0	1729.7	1583.0	1373.5	1124.0	923.3	811.7	775.4	809.6	922.9
40°	1743.8	1764.0	1703.1	1560.1	1354.9	1107.1	907.2	796.8	760.5	794.7	906.8
40.5°	1708.0	1732.1	1674.9	1536.7	1335.6	1090.5	891.9	781.8	746.0	779.8	891.1
41°	1671.7	1699.1	1645.9	1512.1	1316.2	1074.4	876.1	766.9	731.5	764.5	875.7
41.5°	1635.0	1663.6	1616.1	1487.1	1296.1	1057.9	860.8	752.0	716.6	750.0	859.6
42°	1596.7	1628.6	1585.8	1461.3	1275.9	1041.4	845.1	737.5	702.4	735.1	843.5
42.5°	1559.7	1593.1	1554.8	1435.5	1254.6	1024.5	830.2	723.0	687.9	720.6	827.0
43°	1522.6	1557.2	1523.0	1408.9	1232.4	1007.1	814.9	708.5	673.4	706.1	810.1
43.5°	1485.1	1521.4	1490.3	1381.9	1210.6	989.4	800.0	694.0	659.3	691.6	793.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1374.7	1413.4	1394.0	1299.3	1142.9	934.2	755.2	650.9	616.6	648.4	741.5
45.5°	1339.6	1377.9	1360.6	1271.1	1119.2	914.8	740.3	636.8	602.5	634.3	723.8
46°	1303.7	1342.0	1327.5	1243.3	1096.2	895.9	725.0	622.2	588.4	619.8	706.1
46.5°	1266.7	1305.8	1294.5	1214.3	1072.4	876.5	709.7	608.1	573.9	605.3	689.1
47°	1232.4	1270.3	1261.4	1185.7	1048.6	857.2	693.6	594.0	560.2	590.4	671.4
47.5°	1196.1	1235.2	1227.6	1156.2	1024.9	837.5	677.9	579.9	546.1	575.9	653.3
48°	1162.3	1200.6	1194.5	1127.6	1001.5	818.1	662.1	566.2	532.4	561.0	635.5
48.5°	1129.2	1166.7	1161.5	1098.2	977.3	798.8	646.0	551.7	518.3	546.1	618.2
49°	1095.0	1132.9	1128.4	1069.6	953.5	779.0	629.9	537.6	504.2	531.2	600.5
49.5°	1062.7	1099.0	1096.6	1040.2	929.3	759.3	613.8	523.9	490.5	516.3	582.8
50°	1029.7	1065.6	1063.1	1010.8	906.4	739.5	598.1	510.2	477.2	501.7	565.0
50.5°	996.6	1032.9	1031.7	981.3	881.8	719.4	581.5	495.7	463.5	486.4	548.1
51°	966.4	1000.7	1000.3	953.1	857.2	699.2	565.0	481.2	449.4	471.1	530.4
51.5°	935.4	969.2	969.2	924.5	833.4	680.3	548.9	467.5	436.1	456.6	513.8
52°	904.4	938.2	938.6	896.3	809.6	660.5	532.8	453.8	422.8	441.7	496.5
52.5°	876.1	907.6	908.4	867.3	785.1	640.8	516.3	439.3	409.1	427.2	479.6
53°	845.9	878.2	878.6	839.9	760.9	621.0	500.5	425.2	395.8	412.3	462.7
53.5°	818.1	848.7	849.5	812.5	737.1	601.7	484.4	411.5	382.1	397.8	446.1
54°	789.5	819.7	820.9	785.5	713.7	582.4	467.9	397.4	369.2	383.3	429.6
54.5°	762.1	791.9	793.5	758.5	690.0	563.4	452.2	383.3	355.9	369.2	413.5
55°	737.1	764.5	765.3	731.9	666.6	544.9	436.5	370.0	345.0	355.9	397.4
55.5°	710.5	737.9	738.7	706.1	643.2	525.5	420.7	356.3	334.5	342.2	382.1
56°	686.3	711.7	712.5	680.7	620.2	506.6	405.0	343.8	323.6	328.9	366.3
56.5°	660.9	686.3	686.7	655.3	598.1	488.4	389.7	331.3	312.7	315.6	351.8
57°	637.6	661.3	661.7	630.7	575.9	469.9	374.8	318.8	305.1	302.3	337.3
57.5°	614.6	637.2	636.8	606.9	554.1	451.4	359.9	306.3	295.8	289.4	322.4
58°	591.6	613.8	613.0	583.6	532.0	434.0	345.8	299.0	286.1	277.3	307.9
58.5°	569.9	590.8	590.0	561.0	511.0	416.3	331.3	290.6	276.5	266.8	293.4
59°	547.7	568.2	567.4	538.4	490.5	399.0	317.2	281.3	266.8	258.7	279.7
59.5°	526.7	547.3	545.7	516.7	469.9	382.1	303.1	271.6	257.5	250.3	266.4
60°	505.0	525.9	523.9	495.7	450.2	365.5	289.0	262.4	248.3	241.8	253.5
60.5°	484.4	505.0	503.0	474.7	430.4	349.4	275.7	252.7	239.0	232.9	241.4
61°	465.1	484.4	482.8	455.0	411.9	333.7	262.8	243.4	230.1	224.1	229.7
61.5°	445.7	465.1	463.1	435.3	393.7	317.6	251.1	234.1	221.7	215.6	218.0
62°	426.8	445.7	444.5	416.3	376.0	301.9	239.4	225.3	213.2	207.1	207.6
62.5°	408.3	427.2	426.0	398.2	359.5	287.7	228.1	216.8	204.7	199.1	197.1
63°	390.9	409.1	407.8	380.4	343.0	273.2	217.2	208.4	196.3	191.0	187.0
63.5°	373.6	391.7	390.5	363.1	326.4	259.5	208.4	200.3	188.2	183.4	177.7
64°	356.3	374.4	373.6	345.8	309.9	246.2	200.7	192.2	180.1	175.7	168.9
64.5°	339.7	358.7	357.5	329.7	293.8	233.3	193.0	184.6	172.1	168.1	160.4
65°	324.4	342.6	341.4	313.9	278.9	221.3	185.4	176.9	164.0	160.4	152.7
65.5°	309.5	327.2	326.0	299.0	264.8	209.2	178.1	169.7	156.8	153.1	145.5
66°	294.2	311.9	311.1	284.5	250.7	197.5	170.5	162.0	149.5	145.9	139.0



TEST NUMBER: P776398

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	253.5	270.4	269.6	243.8	212.4	166.8	149.9	141.5	128.6	125.3	121.7
68°	240.6	257.5	256.7	230.9	200.7	157.6	143.5	135.0	122.1	118.9	116.5
68.5°	228.5	245.0	243.8	218.8	189.0	148.7	137.0	128.6	116.1	112.8	111.2
69°	216.4	233.3	231.7	207.1	178.5	140.7	131.0	122.5	110.0	106.8	106.0
69.5°	204.7	221.7	220.4	195.9	168.1	132.6	125.3	116.5	104.4	101.2	101.2
70°	193.8	210.0	208.8	185.0	158.4	125.3	119.7	110.8	98.7	95.5	95.9
70.5°	183.4	199.5	198.3	174.9	148.7	118.5	114.5	105.6	93.9	90.3	91.1
71°	172.9	189.0	187.8	164.8	140.2	112.0	109.2	100.3	88.7	85.4	86.6
71.5°	162.8	179.3	177.7	155.6	131.8	105.6	104.0	95.1	83.8	80.6	82.2
72°	153.5	169.3	168.1	146.7	123.7	99.9	98.7	90.3	79.4	76.2	77.4
72.5°	143.5	160.0	158.8	139.0	116.1	94.3	94.3	85.8	75.0	72.1	73.3
73°	135.4	150.7	149.5	131.0	108.8	89.1	89.5	81.4	70.9	67.7	69.3
73.5°	127.4	144.3	141.9	123.3	102.0	84.2	85.0	77.0	66.9	64.1	65.3
74°	119.3	135.8	133.8	115.3	95.5	79.8	80.6	72.9	62.9	60.0	61.3
74.5°	111.2	127.8	126.1	107.2	89.5	75.4	76.6	68.9	59.2	56.4	57.6
75°	104.0	119.7	118.1	100.3	83.4	71.3	72.1	64.9	55.6	53.2	54.0
75.5°	96.3	111.6	110.4	93.9	77.8	67.7	68.5	61.3	52.4	49.6	50.8
76°	89.5	104.4	103.2	87.5	72.5	64.1	64.9	57.6	48.8	46.3	47.6
76.5°	83.0	97.5	96.3	81.4	67.7	60.5	61.3	54.4	45.5	43.1	44.3
77°	76.6	91.1	89.9	75.8	62.9	57.2	57.6	50.8	42.7	40.3	41.5
77.5°	70.5	85.0	83.4	70.5	58.4	54.0	54.4	47.6	39.9	37.5	38.7
78°	64.9	79.0	77.4	65.3	54.0	50.8	51.2	44.3	37.1	34.7	35.9
78.5°	59.2	73.3	71.7	60.0	50.0	48.0	48.0	41.1	34.3	32.2	33.4
79°	54.0	68.1	66.1	55.6	46.3	45.1	44.7	38.3	31.8	29.8	31.0
79.5°	48.8	62.9	60.9	51.2	42.7	42.3	41.9	35.5	29.4	27.0	28.6
80°	43.9	58.0	56.0	46.7	39.9	39.5	39.1	33.0	26.6	24.6	25.8
80.5°	39.5	53.2	51.6	43.1	36.7	37.1	36.3	30.2	24.2	22.2	23.4
81°	35.1	48.8	47.2	39.5	34.3	34.7	33.9	27.4	22.2	20.2	21.4
81.5°	30.6	44.3	42.7	35.9	31.4	32.2	31.0	24.6	19.7	18.1	19.3
82°	26.6	40.3	38.7	32.6	29.0	29.4	28.6	22.2	17.7	16.1	17.3
82.5°	23.0	36.3	35.1	29.8	26.2	27.0	25.8	20.2	15.7	14.1	15.3
83°	19.3	32.6	31.4	27.0	23.8	24.6	23.4	17.7	13.7	12.1	13.7
83.5°	15.7	29.0	28.2	24.2	21.8	22.6	21.0	15.7	12.1	10.5	12.1
84°	12.9	25.4	25.0	21.4	19.3	20.6	18.9	13.7	10.5	8.5	10.5
84.5°	10.1	22.2	22.2	18.9	17.7	18.5	16.9	11.7	8.5	7.3	8.9
85°	7.3	18.9	19.3	16.9	15.7	16.5	14.9	10.1	6.9	5.6	7.7
85.5°	4.4	15.7	16.5	14.5	13.7	14.5	12.9	8.5	5.6	4.8	6.0
86°	3.2	13.7	14.5	12.9	12.1	12.9	11.3	7.3	4.4	4.0	4.8
86.5°	2.4	11.3	12.5	10.9	10.5	10.9	9.7	6.0	3.6	3.2	3.6
87°	2.0	8.9	10.1	8.9	8.9	9.3	8.1	4.8	2.8	2.4	2.4
87.5°	1.2	6.9	8.1	7.3	7.3	7.7	6.4	4.0	2.0	1.6	1.2
88°	0.8	4.8	6.0	5.6	6.0	6.0	5.2	2.8	1.2	0.8	0.4
88.5°	0.4	2.8	4.0	4.0	4.8	4.4	3.6	2.0	0.8	0.4	0.0



TEST NUMBER: P776398

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-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	0.4	0.8	0.8	0.4	0.0	0.0	0.0	0.0



TEST NUMBER: P776398

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2105.7	2105.7	2105.7	2105.7	2105.7	2105.7
0.5°	2100.9	2099.7	2107.3	2114.2	2119.8	2121.4
1°	2095.3	2099.3	2111.8	2123.5	2131.9	2133.9
1.5°	2089.2	2098.1	2115.8	2131.5	2143.2	2146.8
2°	2082.8	2096.9	2119.8	2140.0	2154.5	2159.3
2.5°	2076.3	2095.3	2123.1	2148.0	2165.0	2171.4
3°	2069.9	2093.6	2126.3	2155.3	2175.9	2183.1
3.5°	2062.6	2091.6	2129.5	2162.6	2185.5	2194.4
4°	2055.4	2089.2	2131.9	2169.4	2195.6	2205.3
4.5°	2047.7	2086.4	2134.3	2175.9	2204.9	2216.2
5°	2040.0	2083.6	2136.4	2182.3	2214.1	2226.6
5.5°	2032.4	2080.7	2138.4	2187.9	2223.0	2236.3
6°	2023.9	2077.5	2140.0	2193.6	2231.1	2246.0
6.5°	2015.9	2073.9	2140.8	2198.8	2239.1	2254.8
7°	2007.4	2069.9	2141.6	2203.7	2246.4	2263.7
7.5°	1998.5	2065.8	2142.4	2208.1	2253.6	2272.2
8°	1989.7	2061.4	2142.4	2212.1	2260.5	2279.8
8.5°	1980.4	2056.6	2142.4	2215.8	2266.9	2287.5
9°	1971.1	2052.1	2142.0	2219.0	2273.0	2294.7
9.5°	1961.5	2046.5	2141.2	2222.2	2278.6	2301.6
10°	1951.8	2041.3	2140.0	2224.6	2283.9	2308.0
10.5°	1942.1	2036.0	2138.8	2226.6	2288.7	2314.1
11°	1931.6	2030.0	2136.8	2228.7	2293.1	2319.7
11.5°	1921.6	2023.5	2134.7	2229.9	2296.8	2324.6
12°	1910.7	2017.1	2132.3	2231.1	2300.4	2329.4
12.5°	1899.8	2010.2	2129.5	2231.5	2303.6	2333.8
13°	1888.9	2003.4	2126.7	2231.9	2306.0	2337.5
13.5°	1878.0	1996.5	2123.1	2231.5	2308.0	2341.1
14°	1866.7	1988.9	2119.4	2231.1	2310.1	2343.9
14.5°	1855.1	1981.2	2115.4	2229.9	2311.3	2346.3
15°	1843.4	1973.1	2110.6	2228.7	2312.1	2348.3
15.5°	1831.7	1964.7	2105.7	2226.6	2312.5	2350.0
16°	1819.6	1956.6	2100.9	2224.6	2312.5	2351.2
16.5°	1807.5	1947.8	2095.7	2221.8	2312.1	2352.0
17°	1795.0	1938.9	2089.6	2219.0	2311.3	2352.4
17.5°	1782.5	1929.6	2083.6	2215.4	2310.1	2352.0
18°	1769.6	1919.9	2077.1	2211.7	2308.4	2351.6
18.5°	1756.7	1910.3	2070.3	2207.3	2306.0	2350.4
19°	1743.8	1900.2	2063.0	2202.9	2303.6	2349.2
19.5°	1730.5	1890.1	2055.8	2197.6	2300.4	2347.1
20°	1717.2	1879.2	2047.7	2192.4	2297.2	2344.7
20.5°	1703.9	1868.8	2039.6	2186.3	2293.1	2341.9
21°	1689.8	1857.9	2031.2	2180.3	2288.7	2338.7

TEST NUMBER: P776398

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1648.3	1822.8	2003.8	2159.3	2273.0	2326.2
23°	1633.8	1811.1	1993.7	2151.3	2266.9	2320.9
23.5°	1620.1	1799.0	1983.6	2143.2	2260.5	2315.7
24°	1605.2	1786.5	1973.1	2134.7	2253.2	2309.3
24.5°	1590.3	1774.1	1962.3	2125.5	2245.6	2302.8
25°	1575.8	1760.4	1951.0	2115.8	2237.5	2295.6
25.5°	1561.3	1747.5	1939.7	2105.7	2228.7	2287.9
26°	1546.4	1734.2	1928.0	2095.7	2220.2	2280.2
26.5°	1530.6	1721.3	1916.3	2084.8	2210.5	2271.4
27°	1515.7	1706.8	1903.8	2073.5	2200.8	2262.5
27.5°	1500.4	1692.2	1890.9	2062.2	2190.4	2252.8
28°	1485.1	1678.9	1877.6	2050.1	2179.1	2242.8
28.5°	1469.4	1664.4	1864.3	2037.6	2167.4	2231.9
29°	1453.7	1649.9	1850.6	2024.7	2155.3	2220.2
29.5°	1438.3	1635.4	1836.1	2011.0	2142.0	2207.7
30°	1422.2	1620.1	1822.4	1996.9	2128.3	2194.4
30.5°	1406.1	1605.2	1807.1	1982.0	2113.4	2180.7
31°	1390.4	1589.5	1792.6	1966.7	2098.1	2166.6
31.5°	1374.3	1575.0	1776.9	1950.2	2081.6	2151.3
32°	1358.1	1558.0	1760.8	1933.2	2065.0	2136.0
32.5°	1342.0	1542.3	1743.8	1915.9	2047.7	2119.0
33°	1325.5	1525.8	1726.1	1897.4	2030.0	2100.5
33.5°	1309.4	1510.1	1708.8	1878.4	2011.0	2081.1
34°	1292.9	1493.2	1689.4	1857.9	1990.1	2062.6
34.5°	1276.7	1475.8	1669.7	1836.9	1968.3	2042.1
35°	1259.8	1458.5	1649.5	1815.6	1946.1	2021.5
35.5°	1243.7	1440.0	1628.6	1793.4	1923.6	1999.3
36°	1227.2	1420.6	1607.2	1770.0	1899.8	1975.6
36.5°	1210.2	1401.7	1585.0	1745.8	1874.8	1951.4
37°	1193.3	1381.5	1561.3	1720.1	1848.2	1925.6
37.5°	1176.0	1359.8	1537.5	1693.5	1820.4	1899.0
38°	1159.1	1338.4	1511.3	1666.0	1791.0	1871.2
38.5°	1141.7	1316.6	1485.9	1637.0	1760.8	1841.4
39°	1124.0	1294.1	1458.1	1606.4	1728.9	1811.1
39.5°	1105.5	1270.3	1431.5	1574.2	1695.1	1778.5
40°	1086.5	1246.9	1402.5	1541.1	1659.6	1743.8
40.5°	1066.4	1222.7	1374.3	1509.3	1624.1	1708.0
41°	1046.6	1198.6	1345.7	1475.4	1587.9	1671.7
41.5°	1026.1	1174.8	1316.6	1442.0	1551.2	1635.0
42°	1005.1	1149.4	1288.0	1408.5	1513.7	1596.7
42.5°	985.0	1124.4	1258.6	1375.1	1477.8	1559.7
43°	964.0	1099.4	1228.4	1340.8	1442.0	1522.6
43.5°	943.0	1074.8	1199.0	1307.0	1405.3	1485.1

TEST NUMBER: P776398

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	879.8	997.9	1109.1	1206.6	1298.5	1374.7
45.5°	858.8	973.3	1079.3	1174.0	1263.8	1339.6
46°	837.5	947.5	1049.4	1140.5	1228.8	1303.7
46.5°	816.5	922.9	1020.4	1109.1	1195.3	1266.7
47°	794.7	897.5	991.4	1077.2	1161.1	1232.4
47.5°	773.0	871.7	961.2	1046.2	1127.2	1196.1
48°	752.0	846.7	932.6	1015.2	1094.2	1162.3
48.5°	731.1	821.7	904.8	985.8	1062.3	1129.2
49°	709.3	798.0	877.4	955.5	1030.1	1095.0
49.5°	688.7	772.6	849.5	926.1	999.5	1062.7
50°	667.8	748.0	821.7	897.5	967.6	1029.7
50.5°	646.8	723.4	796.3	868.9	938.2	996.6
51°	626.3	699.6	769.8	841.5	908.4	966.4
51.5°	606.9	675.4	744.8	814.1	879.0	935.4
52°	585.6	652.9	720.2	787.9	850.8	904.4
52.5°	565.4	630.3	695.6	762.1	822.9	876.1
53°	545.7	606.9	671.4	736.3	795.5	845.9
53.5°	526.3	584.8	648.0	711.7	769.3	818.1
54°	506.6	563.8	625.5	686.7	742.7	789.5
54.5°	488.0	542.5	602.9	663.8	717.8	762.1
55°	469.1	521.5	581.1	640.0	693.2	737.1
55.5°	450.2	501.7	560.2	617.8	669.0	710.5
56°	432.0	482.0	538.8	595.7	645.6	686.3
56.5°	414.3	462.7	518.7	574.3	621.8	660.9
57°	397.0	444.1	498.5	552.9	599.7	637.6
57.5°	380.0	425.6	479.6	532.4	577.9	614.6
58°	363.5	407.8	460.6	513.0	557.0	591.6
58.5°	348.2	390.1	441.7	493.3	536.0	569.9
59°	332.5	373.6	424.8	474.3	515.9	547.7
59.5°	316.8	357.1	406.2	455.8	496.9	526.7
60°	301.5	340.9	390.1	438.1	477.6	505.0
60.5°	287.3	325.6	373.6	420.3	459.8	484.4
61°	273.6	310.3	357.5	403.0	440.9	465.1
61.5°	259.9	295.8	342.2	387.3	423.6	445.7
62°	246.6	281.7	327.2	371.2	406.6	426.8
62.5°	234.1	268.0	312.3	355.5	389.7	408.3
63°	222.1	254.3	298.2	340.1	373.2	390.9
63.5°	210.4	241.4	284.1	326.0	357.1	373.6
64°	199.1	229.3	270.8	311.5	341.4	356.3
64.5°	188.6	217.2	258.3	297.8	326.8	339.7
65°	178.5	205.9	245.8	284.1	311.9	324.4
65.5°	168.5	195.1	233.7	271.6	297.8	309.5
66°	159.2	184.2	221.7	259.1	283.7	294.2



TEST NUMBER: P776398

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	133.8	154.8	189.8	224.1	245.4	253.5
68°	126.1	146.3	179.3	212.8	233.7	240.6
68.5°	118.5	138.2	169.7	202.3	222.1	228.5
69°	112.0	130.6	160.4	191.8	211.2	216.4
69.5°	105.2	122.9	151.5	182.2	199.9	204.7
70°	99.1	114.9	143.5	172.5	189.8	193.8
70.5°	93.1	107.2	135.4	163.2	179.7	183.4
71°	87.9	100.8	127.8	154.4	170.5	172.9
71.5°	82.2	94.3	120.1	145.9	160.8	162.8
72°	77.4	87.9	112.0	138.2	151.9	153.5
72.5°	72.5	82.2	105.2	130.6	143.1	143.5
73°	68.1	76.6	98.3	122.9	135.4	135.4
73.5°	63.7	71.7	92.3	115.3	127.8	127.4
74°	59.6	66.5	86.2	107.6	119.7	119.3
74.5°	55.6	61.7	80.6	100.8	112.0	111.2
75°	52.0	57.2	74.6	94.3	105.2	104.0
75.5°	48.8	52.8	69.3	87.9	98.3	96.3
76°	45.5	48.8	64.1	81.8	91.5	89.5
76.5°	42.7	44.7	59.2	75.8	85.0	83.0
77°	39.9	41.5	54.8	70.1	79.4	76.6
77.5°	37.1	38.3	50.4	64.9	73.8	70.5
78°	34.7	35.1	46.3	60.0	68.1	64.9
78.5°	32.2	32.2	42.3	55.2	62.9	59.2
79°	30.2	29.4	38.7	50.4	57.6	54.0
79.5°	27.8	26.6	35.5	45.9	52.8	48.8
80°	25.4	24.2	31.8	41.9	48.4	43.9
80.5°	23.4	22.2	29.0	37.9	43.9	39.5
81°	21.4	19.7	25.8	34.3	39.5	35.1
81.5°	19.3	17.7	23.4	30.6	35.5	30.6
82°	17.3	15.7	20.6	27.0	31.8	26.6
82.5°	15.7	14.1	18.1	24.2	28.2	23.0
83°	13.7	12.5	15.7	21.0	25.0	19.3
83.5°	12.1	10.5	13.7	18.1	21.8	15.7
84°	10.5	8.9	11.7	15.7	18.9	12.9
84.5°	8.9	7.3	9.7	13.3	16.1	10.1
85°	7.3	6.0	7.7	11.3	14.1	7.3
85.5°	5.6	4.4	6.0	8.9	11.7	4.4
86°	4.4	3.2	4.4	6.4	9.3	3.2
86.5°	3.2	2.0	2.8	4.4	7.3	2.4
87°	1.6	0.8	1.2	2.8	4.8	2.0
87.5°	0.8	0.4	0.4	1.2	2.8	1.2
88°	0.0	0.0	0.0	0.0	1.2	0.8
88.5°	0.0	0.0	0.0	0.0	0.0	0.4



TEST NUMBER: P776398

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-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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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°	2335.0	2314.5	2225.8	2077.5	1884.9	1683.4	1512.5	1403.7	1367.8	1406.1	1515.3
22°	2331.0	2310.1	2220.2	2069.9	1874.8	1669.7	1496.0	1385.6	1349.3	1388.8	1498.8



44°	1448.4	1485.5	1458.1	1354.5	1188.1	971.3	785.1	679.5	644.8	677.1	775.8
44.5°	1412.2	1449.2	1426.7	1327.1	1165.5	953.1	770.2	665.0	630.3	662.6	758.9



66.5°	279.7	297.8	297.0	270.0	237.4	187.0	163.2	154.8	141.9	138.6	133.0
67°	266.4	284.1	282.5	256.7	224.9	176.5	156.4	148.3	135.0	132.2	127.4



89°	0.0	1.2	2.4	2.4	3.2	3.2	2.4	1.2	0.0	0.0	0.0
89.5°	0.0	0.4	0.8	1.2	2.0	2.0	1.2	0.4	0.0	0.0	0.0

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21.5°	1676.5	1845.8	2022.3	2173.4	2284.3	2335.0
22°	1662.0	1835.3	2013.0	2166.6	2278.6	2331.0



44°	921.7	1049.4	1169.1	1273.1	1369.0	1448.4
44.5°	900.7	1023.6	1139.3	1239.7	1334.0	1412.2



66.5°	149.9	174.1	210.8	247.0	270.8	279.7
67°	141.5	164.0	199.9	235.0	257.9	266.4

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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)