

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: P776397

Luminaire Tested: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-3500K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776397
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: HCDJBS3040CSD-HCD6TRH-HCD6TRLWW-4000lm-3500K
Description: 6 INCH ROUND MEDIUM LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

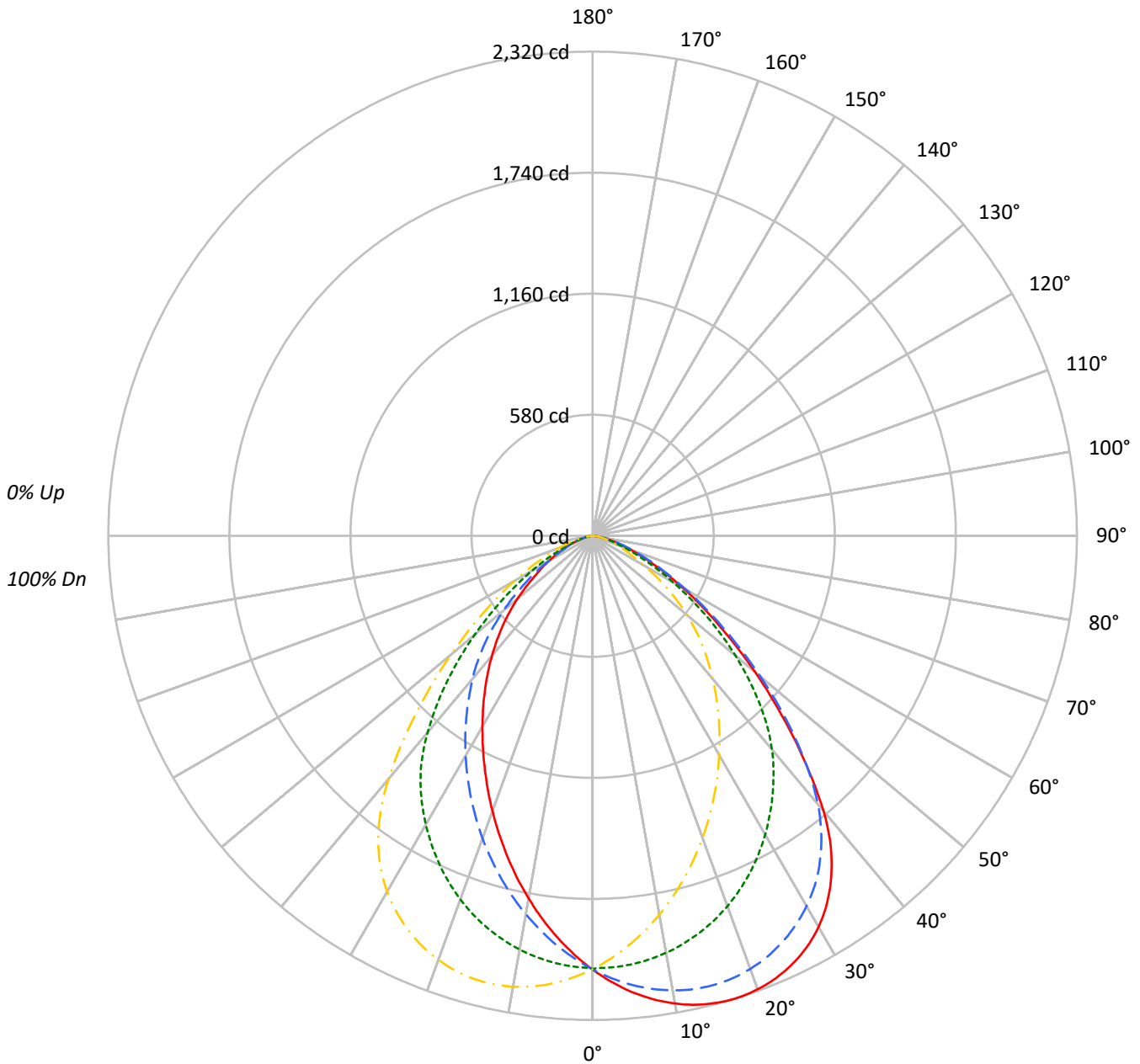
Lumens per Lamp: N/A
Luminaire Lumens: 4082.6 lumens
Efficiency: N/A
Efficacy: 106.0 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.17 / 1.23
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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°	113840	113840	113840	113840
5°	120839	113510	106361	113075
10°	126701	112940	98250	112055
15°	131437	111834	89978	110438
20°	134896	110178	81849	108119
25°	136931	107770	74043	105006
30°	136989	104611	66820	101136
35°	133418	100672	60110	96255
40°	123066	95622	53672	88001
45°	105104	87381	47144	76295
50°	86607	76228	40135	62915
55°	69474	62832	32515	49155
60°	54601	48669	26840	36861
65°	41496	35672	20988	26345
70°	30646	25036	15612	18160
75°	21710	17432	11607	11946
80°	13670	12407	8271	7514
85°	4529	9749	4277	3774

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 108058 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.6	4.8
10°-20°	550.7	13.5
20°-30°	805.0	19.7
30°-40°	904.7	22.2
40°-50°	780.3	19.1
50°-60°	501.1	12.3
60°-70°	243.1	6.0
70°-80°	87.0	2.1
80°-90°	15.0	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°	1551.3	38.0
0°-40°	2456.0	60.2
0°-60°	3737.5	91.5
0°-90°	4082.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4082.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2077	2077	2077	2077	2077	
5°	2196	2063	1933	2055	2196	212
15°	2316	1970	1585	1946	2316	655
25°	2264	1782	1224	1736	2264	1042
35°	1994	1504	898	1438	1994	1236
45°	1356	1127	608	984	1356	1046
55°	727	657	340	514	727	656
65°	320	275	162	203	320	324
75°	102	82	55	56	102	113
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°	2076.6	2076.6	2076.6	2076.6	2076.6	2076.6	2076.6	2076.6	2076.6	2076.6	2076.6
0.5°	2092.1	2090.5	2087.4	2082.6	2071.5	2068.7	2067.1	2066.3	2065.5	2065.9	2068.3
1°	2104.5	2102.5	2096.5	2087.4	2071.5	2063.9	2057.6	2054.0	2051.6	2052.8	2058.0
1.5°	2117.2	2114.4	2105.2	2092.1	2071.5	2058.0	2047.6	2040.9	2037.7	2039.7	2048.0
2°	2129.5	2125.9	2114.0	2096.9	2071.1	2052.4	2037.7	2027.7	2023.8	2027.0	2037.3
2.5°	2141.4	2136.6	2122.7	2100.9	2070.3	2046.4	2027.0	2014.2	2009.1	2013.0	2026.6
3°	2152.9	2147.4	2130.3	2104.8	2069.1	2040.5	2016.6	2000.7	1994.0	1999.1	2015.4
3.5°	2164.1	2157.7	2138.6	2108.8	2067.9	2034.1	2005.5	1986.4	1979.3	1985.2	2004.7
4°	2174.8	2168.4	2145.8	2112.0	2066.3	2027.3	1994.4	1972.1	1963.8	1970.9	1993.2
4.5°	2185.5	2177.6	2153.3	2115.2	2064.7	2020.2	1982.8	1957.8	1948.3	1956.6	1981.6
5°	2195.9	2187.5	2160.1	2118.0	2062.7	2013.4	1971.3	1943.1	1932.8	1941.5	1969.7
5.5°	2205.4	2196.3	2166.8	2120.7	2060.3	2005.5	1959.4	1928.4	1916.9	1926.8	1957.8
6°	2214.9	2205.0	2173.2	2123.1	2058.0	1997.9	1947.5	1912.9	1900.2	1911.7	1945.5
6.5°	2223.7	2213.4	2179.2	2125.1	2055.2	1990.4	1934.7	1897.8	1884.3	1896.2	1933.2
7°	2232.4	2221.3	2184.7	2127.1	2052.0	1982.0	1922.4	1882.3	1867.6	1881.1	1920.4
7.5°	2240.8	2228.9	2190.3	2128.3	2048.8	1973.7	1909.7	1866.4	1850.9	1865.6	1907.7
8°	2248.3	2236.4	2195.1	2129.5	2045.2	1965.3	1896.6	1850.9	1833.8	1849.3	1894.6
8.5°	2255.9	2243.6	2199.8	2130.7	2041.7	1956.6	1883.1	1834.2	1817.1	1833.4	1881.5
9°	2263.0	2249.9	2204.2	2131.1	2037.7	1947.5	1870.0	1818.3	1799.6	1817.5	1868.4
9.5°	2269.8	2256.3	2208.2	2131.9	2033.3	1938.3	1856.4	1802.0	1782.1	1800.8	1854.5
10°	2276.1	2262.2	2211.8	2131.9	2028.9	1928.8	1842.9	1785.7	1765.0	1784.5	1841.3
10.5°	2282.1	2267.8	2215.3	2131.5	2024.2	1919.2	1829.0	1769.0	1747.9	1768.2	1827.4
11°	2287.7	2272.6	2218.5	2131.1	2019.4	1909.3	1814.7	1751.9	1729.7	1751.5	1813.5
11.5°	2292.4	2277.3	2220.9	2130.3	2013.8	1899.0	1800.4	1735.2	1711.8	1734.8	1799.2
12°	2297.2	2281.3	2223.3	2129.1	2008.7	1889.0	1786.1	1718.1	1694.3	1718.1	1785.3
12.5°	2301.6	2285.3	2225.3	2127.9	2002.7	1878.3	1771.8	1701.0	1676.4	1700.7	1771.0
13°	2305.2	2288.5	2226.9	2126.3	1997.1	1868.0	1757.1	1684.0	1658.1	1684.0	1756.3
13.5°	2308.7	2291.6	2228.1	2123.9	1990.8	1857.2	1742.4	1666.9	1640.2	1666.9	1742.0
14°	2311.5	2294.0	2228.9	2121.9	1984.4	1846.1	1727.3	1649.0	1622.0	1649.8	1727.3
14.5°	2313.9	2296.4	2228.9	2119.2	1977.7	1835.0	1712.2	1631.5	1604.1	1631.9	1712.2
15°	2315.9	2298.0	2229.2	2116.0	1970.5	1823.5	1697.1	1614.0	1585.4	1614.8	1697.1
15.5°	2317.5	2299.2	2228.9	2112.8	1963.8	1811.9	1681.6	1596.9	1567.5	1597.7	1682.0
16°	2318.7	2300.4	2228.1	2109.6	1956.2	1800.4	1666.5	1579.0	1549.2	1580.2	1666.9
16.5°	2319.5	2300.4	2227.3	2105.6	1948.7	1788.1	1650.6	1561.1	1530.9	1562.7	1651.8
17°	2319.9	2300.4	2225.7	2101.3	1940.7	1776.2	1635.5	1543.7	1512.7	1545.3	1636.3
17.5°	2319.5	2300.4	2223.7	2096.5	1932.8	1763.8	1619.6	1525.8	1494.0	1527.4	1620.8
18°	2319.1	2299.6	2221.7	2092.1	1924.4	1751.5	1603.7	1507.9	1476.1	1510.3	1605.3
18.5°	2317.9	2298.4	2218.5	2086.6	1915.7	1738.8	1587.8	1490.4	1457.8	1492.4	1589.4
19°	2316.7	2296.8	2215.7	2081.4	1906.5	1726.1	1571.9	1472.5	1439.5	1474.5	1573.9
19.5°	2314.7	2294.8	2212.2	2075.4	1897.8	1713.4	1556.4	1454.6	1421.2	1457.4	1558.4
20°	2312.3	2292.4	2208.6	2069.1	1888.6	1700.3	1540.5	1437.1	1403.0	1439.9	1542.5
20.5°	2309.5	2289.3	2204.2	2062.7	1878.7	1687.1	1523.8	1419.7	1385.5	1422.0	1526.6
21°	2306.4	2286.1	2199.8	2056.0	1868.8	1673.6	1507.5	1401.8	1366.8	1404.6	1510.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2294.0	2273.8	2183.9	2033.3	1838.2	1632.7	1459.4	1349.3	1313.1	1352.1	1462.2
23°	2288.9	2268.6	2177.6	2025.4	1827.4	1618.8	1442.7	1331.4	1294.9	1334.6	1445.9
23.5°	2283.7	2263.0	2171.2	2017.0	1816.3	1604.9	1426.4	1314.3	1277.4	1317.1	1429.6
24°	2277.3	2257.1	2164.1	2007.9	1805.2	1590.6	1410.1	1296.5	1259.5	1299.6	1413.7
24.5°	2271.0	2250.7	2156.9	1999.1	1793.7	1576.6	1393.4	1279.4	1241.6	1282.1	1397.4
25°	2263.8	2244.0	2149.0	1989.6	1781.7	1562.3	1376.7	1261.5	1224.1	1265.1	1381.1
25.5°	2256.3	2236.4	2141.0	1980.1	1770.2	1547.6	1360.8	1244.8	1207.0	1248.0	1364.8
26°	2248.7	2228.9	2132.7	1969.7	1757.9	1532.9	1344.5	1227.3	1189.9	1230.9	1348.1
26.5°	2240.0	2220.5	2123.5	1959.8	1745.6	1518.2	1327.9	1210.2	1172.5	1213.4	1331.8
27°	2231.2	2211.8	2114.0	1948.7	1733.2	1503.5	1311.2	1193.1	1155.4	1196.7	1315.5
27.5°	2221.7	2202.6	2104.5	1937.9	1720.1	1488.4	1294.9	1176.8	1138.3	1179.6	1299.2
28°	2211.8	2192.7	2094.1	1926.4	1707.0	1473.3	1278.6	1159.7	1121.6	1162.9	1282.9
28.5°	2201.0	2182.7	2083.4	1914.9	1693.9	1458.2	1262.3	1143.0	1104.9	1146.2	1266.6
29°	2189.5	2172.0	2072.3	1902.6	1680.4	1443.1	1245.6	1126.0	1088.6	1129.5	1250.0
29.5°	2177.2	2160.5	2061.1	1890.6	1666.9	1427.6	1229.3	1110.1	1071.9	1112.4	1233.7
30°	2164.1	2148.6	2049.2	1878.3	1652.6	1412.5	1212.6	1093.4	1055.6	1096.1	1217.0
30.5°	2150.6	2135.8	2036.9	1864.8	1638.7	1397.0	1196.7	1077.1	1039.3	1079.5	1200.7
31°	2136.6	2122.3	2024.2	1851.7	1624.7	1381.1	1180.4	1061.2	1023.4	1063.2	1184.4
31.5°	2121.5	2108.0	2011.1	1838.2	1609.6	1365.6	1164.1	1044.9	1007.1	1046.9	1167.7
32°	2106.4	2092.9	1997.1	1824.3	1595.3	1350.1	1147.8	1029.0	991.6	1030.6	1151.8
32.5°	2089.7	2077.0	1982.4	1809.9	1580.6	1334.2	1131.5	1013.1	975.7	1014.7	1135.5
33°	2071.5	2060.7	1967.3	1795.6	1565.5	1317.9	1115.2	997.6	960.2	998.8	1118.4
33.5°	2052.4	2043.6	1951.4	1780.9	1550.8	1302.0	1099.3	982.1	944.7	982.5	1102.1
34°	2034.1	2026.2	1934.7	1765.4	1535.3	1286.1	1083.0	966.2	929.2	967.4	1086.2
34.5°	2013.8	2007.1	1917.3	1749.5	1519.8	1270.2	1067.1	950.7	913.3	951.5	1069.9
35°	1993.6	1987.6	1899.4	1733.6	1504.3	1254.3	1051.2	935.2	898.2	935.6	1053.6
35.5°	1971.7	1967.7	1880.7	1716.9	1488.8	1238.0	1035.3	920.1	883.1	920.5	1037.3
36°	1948.3	1946.3	1861.6	1699.9	1472.9	1222.1	1019.8	905.0	868.4	905.0	1021.4
36.5°	1924.4	1924.4	1841.7	1681.6	1456.2	1205.8	1003.9	889.5	852.9	889.5	1005.1
37°	1899.0	1901.4	1821.1	1663.3	1440.3	1189.9	988.0	874.4	838.2	874.0	989.2
37.5°	1872.7	1877.1	1799.6	1643.8	1423.6	1173.2	972.5	859.7	823.1	858.9	972.9
38°	1845.3	1852.5	1777.4	1624.3	1406.5	1157.0	956.6	844.6	808.4	843.8	957.0
38.5°	1815.9	1826.6	1754.3	1604.1	1389.5	1141.1	941.1	829.9	794.1	828.7	941.1
39°	1786.1	1799.6	1730.5	1583.0	1372.4	1124.4	926.0	814.8	779.4	813.6	925.6
39.5°	1753.9	1770.2	1705.8	1561.1	1354.5	1108.5	910.5	800.4	764.7	798.5	910.1
40°	1719.7	1739.6	1679.6	1538.5	1336.2	1091.8	894.6	785.7	750.0	783.8	894.2
40.5°	1684.4	1708.2	1651.8	1515.4	1317.1	1075.5	879.5	771.0	735.7	769.0	878.7
41°	1648.6	1675.6	1623.2	1491.2	1298.0	1059.6	864.0	756.3	721.4	753.9	863.6
41.5°	1612.4	1640.6	1593.7	1466.6	1278.2	1043.3	848.9	741.6	706.7	739.6	847.7
42°	1574.7	1606.1	1563.9	1441.1	1258.3	1027.0	833.4	727.3	692.7	724.9	831.8
42.5°	1538.1	1571.1	1533.3	1415.7	1237.2	1010.3	818.7	713.0	678.4	710.6	815.5
43°	1501.5	1535.7	1501.9	1389.5	1215.4	993.2	803.6	698.7	664.1	696.3	798.9
43.5°	1464.6	1500.3	1469.7	1362.8	1193.9	975.7	788.9	684.4	650.2	682.0	782.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1355.7	1393.8	1374.7	1281.4	1127.1	921.3	744.8	641.9	608.1	639.5	731.3
45.5°	1321.1	1358.9	1341.8	1253.5	1103.7	902.2	730.1	628.0	594.2	625.6	713.8
46°	1285.7	1323.5	1309.2	1226.1	1081.0	883.5	715.0	613.6	580.3	611.3	696.3
46.5°	1249.2	1287.7	1276.6	1197.5	1057.6	864.4	699.9	599.7	566.0	597.0	679.6
47°	1215.4	1252.7	1244.0	1169.3	1034.1	845.4	684.0	585.8	552.4	582.3	662.1
47.5°	1179.6	1218.2	1210.6	1140.3	1010.7	825.9	668.5	571.9	538.5	567.9	644.3
48°	1146.2	1184.0	1178.0	1112.0	987.6	806.8	653.0	558.4	525.0	553.2	626.8
48.5°	1113.6	1150.6	1145.4	1083.0	963.8	787.7	637.1	544.1	511.1	538.5	609.7
49°	1079.8	1117.2	1112.8	1054.8	940.3	768.3	621.2	530.2	497.2	523.8	592.2
49.5°	1048.1	1083.8	1081.4	1025.8	916.5	748.8	605.3	516.7	483.7	509.1	574.7
50°	1015.5	1050.8	1048.4	996.8	893.8	729.3	589.8	503.2	470.6	494.8	557.2
50.5°	982.9	1018.6	1017.4	967.8	869.6	709.4	573.5	488.9	457.1	479.7	540.5
51°	953.1	986.8	986.4	939.9	845.4	689.6	557.2	474.5	443.1	464.6	523.0
51.5°	922.5	955.8	955.8	911.7	821.9	670.9	541.3	461.0	430.0	450.3	506.7
52°	891.9	925.2	925.6	883.9	798.5	651.4	525.4	447.5	416.9	435.6	489.6
52.5°	864.0	895.0	895.8	855.3	774.2	631.9	509.1	433.2	403.4	421.3	473.0
53°	834.2	866.0	866.4	828.3	750.4	612.5	493.6	419.3	390.3	406.6	456.3
53.5°	806.8	837.0	837.8	801.2	726.9	593.4	477.7	405.8	376.8	392.3	440.0
54°	778.6	808.4	809.6	774.6	703.9	574.3	461.4	391.9	364.1	378.0	423.7
54.5°	751.6	781.0	782.6	748.0	680.4	555.6	445.9	378.0	350.9	364.1	407.8
55°	726.9	753.9	754.7	721.8	657.4	537.3	430.4	364.9	340.2	350.9	391.9
55.5°	700.7	727.7	728.5	696.3	634.3	518.3	414.9	351.3	329.9	337.4	376.8
56°	676.8	701.9	702.7	671.3	611.7	499.6	399.4	339.0	319.1	324.3	361.3
56.5°	651.8	676.8	677.2	646.2	589.8	481.7	384.3	326.7	308.4	311.2	347.0
57°	628.8	652.2	652.6	622.0	567.9	463.4	369.6	314.4	300.9	298.1	332.7
57.5°	606.1	628.4	628.0	598.5	546.5	445.1	354.9	302.1	291.7	285.4	318.0
58°	583.4	605.3	604.5	575.5	524.6	428.0	341.0	294.9	282.2	273.4	303.6
58.5°	562.0	582.6	581.9	553.2	504.0	410.6	326.7	286.6	272.6	263.1	289.3
59°	540.1	560.4	559.6	531.0	483.7	393.5	312.8	277.4	263.1	255.2	275.8
59.5°	519.5	539.7	538.1	509.5	463.4	376.8	298.9	267.9	254.0	246.8	262.7
60°	498.0	518.7	516.7	488.9	443.9	360.5	285.0	258.7	244.8	238.5	250.0
60.5°	477.7	498.0	496.0	468.2	424.5	344.6	271.8	249.2	235.7	229.7	238.1
61°	458.6	477.7	476.1	448.7	406.2	329.1	259.1	240.1	226.9	221.0	226.5
61.5°	439.6	458.6	456.7	429.2	388.3	313.2	247.6	230.9	218.6	212.6	215.0
62°	420.9	439.6	438.4	410.6	370.8	297.7	236.1	222.2	210.2	204.3	204.7
62.5°	402.6	421.3	420.1	392.7	354.5	283.8	225.0	213.8	201.9	196.3	194.3
63°	385.5	403.4	402.2	375.2	338.2	269.5	214.2	205.5	193.6	188.4	184.4
63.5°	368.4	386.3	385.1	358.1	321.9	256.0	205.5	197.5	185.6	180.8	175.3
64°	351.3	369.2	368.4	341.0	305.6	242.8	197.9	189.6	177.7	173.3	166.5
64.5°	335.0	353.7	352.5	325.1	289.7	230.1	190.4	182.0	169.7	165.7	158.2
65°	319.9	337.8	336.6	309.6	275.0	218.2	182.8	174.5	161.8	158.2	150.6
65.5°	305.2	322.7	321.5	294.9	261.1	206.3	175.7	167.3	154.6	151.0	143.5
66°	290.1	307.6	306.8	280.6	247.2	194.7	168.1	159.8	147.5	143.9	137.1



TEST NUMBER: P776397

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	250.0	266.7	265.9	240.5	209.5	164.5	147.8	139.5	126.8	123.6	120.0
68°	237.3	254.0	253.2	227.7	197.9	155.4	141.5	133.1	120.4	117.2	114.9
68.5°	225.3	241.6	240.5	215.8	186.4	146.7	135.1	126.8	114.5	111.3	109.7
69°	213.4	230.1	228.5	204.3	176.1	138.7	129.2	120.8	108.5	105.3	104.5
69.5°	201.9	218.6	217.4	193.2	165.7	130.8	123.6	114.9	102.9	99.8	99.8
70°	191.2	207.1	205.9	182.4	156.2	123.6	118.0	109.3	97.4	94.2	94.6
70.5°	180.8	196.7	195.5	172.5	146.7	116.8	112.9	104.1	92.6	89.0	89.8
71°	170.5	186.4	185.2	162.6	138.3	110.5	107.7	99.0	87.4	84.3	85.4
71.5°	160.6	176.9	175.3	153.4	130.0	104.1	102.5	93.8	82.7	79.5	81.1
72°	151.4	166.9	165.7	144.7	122.0	98.6	97.4	89.0	78.3	75.1	76.3
72.5°	141.5	157.8	156.6	137.1	114.5	93.0	93.0	84.7	73.9	71.1	72.3
73°	133.5	148.6	147.5	129.2	107.3	87.8	88.2	80.3	69.9	66.8	68.4
73.5°	125.6	142.3	139.9	121.6	100.6	83.1	83.9	75.9	66.0	63.2	64.4
74°	117.6	133.9	132.0	113.7	94.2	78.7	79.5	71.9	62.0	59.2	60.4
74.5°	109.7	126.0	124.4	105.7	88.2	74.3	75.5	68.0	58.4	55.6	56.8
75°	102.5	118.0	116.5	99.0	82.3	70.3	71.1	64.0	54.8	52.5	53.3
75.5°	95.0	110.1	108.9	92.6	76.7	66.8	67.6	60.4	51.7	48.9	50.1
76°	88.2	102.9	101.7	86.2	71.5	63.2	64.0	56.8	48.1	45.7	46.9
76.5°	81.9	96.2	95.0	80.3	66.8	59.6	60.4	53.7	44.9	42.5	43.7
77°	75.5	89.8	88.6	74.7	62.0	56.4	56.8	50.1	42.1	39.7	40.9
77.5°	69.6	83.9	82.3	69.6	57.6	53.3	53.7	46.9	39.3	37.0	38.2
78°	64.0	77.9	76.3	64.4	53.3	50.1	50.5	43.7	36.6	34.2	35.4
78.5°	58.4	72.3	70.7	59.2	49.3	47.3	47.3	40.5	33.8	31.8	33.0
79°	53.3	67.2	65.2	54.8	45.7	44.5	44.1	37.8	31.4	29.4	30.6
79.5°	48.1	62.0	60.0	50.5	42.1	41.7	41.3	35.0	29.0	26.6	28.2
80°	43.3	57.2	55.2	46.1	39.3	38.9	38.6	32.6	26.2	24.2	25.4
80.5°	38.9	52.5	50.9	42.5	36.2	36.6	35.8	29.8	23.8	21.9	23.1
81°	34.6	48.1	46.5	38.9	33.8	34.2	33.4	27.0	21.9	19.9	21.1
81.5°	30.2	43.7	42.1	35.4	31.0	31.8	30.6	24.2	19.5	17.9	19.1
82°	26.2	39.7	38.2	32.2	28.6	29.0	28.2	21.9	17.5	15.9	17.1
82.5°	22.7	35.8	34.6	29.4	25.8	26.6	25.4	19.9	15.5	13.9	15.1
83°	19.1	32.2	31.0	26.6	23.4	24.2	23.1	17.5	13.5	11.9	13.5
83.5°	15.5	28.6	27.8	23.8	21.5	22.3	20.7	15.5	11.9	10.3	11.9
84°	12.7	25.0	24.6	21.1	19.1	20.3	18.7	13.5	10.3	8.3	10.3
84.5°	9.9	21.9	21.9	18.7	17.5	18.3	16.7	11.5	8.3	7.2	8.7
85°	7.2	18.7	19.1	16.7	15.5	16.3	14.7	9.9	6.8	5.6	7.6
85.5°	4.4	15.5	16.3	14.3	13.5	14.3	12.7	8.3	5.6	4.8	6.0
86°	3.2	13.5	14.3	12.7	11.9	12.7	11.1	7.2	4.4	4.0	4.8
86.5°	2.4	11.1	12.3	10.7	10.3	10.7	9.5	6.0	3.6	3.2	3.6
87°	2.0	8.7	9.9	8.7	8.7	9.1	7.9	4.8	2.8	2.4	2.4
87.5°	1.2	6.8	7.9	7.2	7.2	7.6	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: P776397

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



TEST NUMBER: P776397

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2076.6	2076.6	2076.6	2076.6	2076.6	2076.6
0.5°	2071.9	2070.7	2078.2	2085.0	2090.5	2092.1
1°	2066.3	2070.3	2082.6	2094.1	2102.5	2104.5
1.5°	2060.3	2069.1	2086.6	2102.1	2113.6	2117.2
2°	2054.0	2067.9	2090.5	2110.4	2124.7	2129.5
2.5°	2047.6	2066.3	2093.7	2118.4	2135.1	2141.4
3°	2041.3	2064.7	2096.9	2125.5	2145.8	2152.9
3.5°	2034.1	2062.7	2100.1	2132.7	2155.3	2164.1
4°	2027.0	2060.3	2102.5	2139.4	2165.3	2174.8
4.5°	2019.4	2057.6	2104.8	2145.8	2174.4	2185.5
5°	2011.8	2054.8	2106.8	2152.1	2183.5	2195.9
5.5°	2004.3	2052.0	2108.8	2157.7	2192.3	2205.4
6°	1995.9	2048.8	2110.4	2163.3	2200.2	2214.9
6.5°	1988.0	2045.2	2111.2	2168.4	2208.2	2223.7
7°	1979.7	2041.3	2112.0	2173.2	2215.3	2232.4
7.5°	1970.9	2037.3	2112.8	2177.6	2222.5	2240.8
8°	1962.2	2032.9	2112.8	2181.6	2229.2	2248.3
8.5°	1953.0	2028.1	2112.8	2185.1	2235.6	2255.9
9°	1943.9	2023.8	2112.4	2188.3	2241.6	2263.0
9.5°	1934.3	2018.2	2111.6	2191.5	2247.1	2269.8
10°	1924.8	2013.0	2110.4	2193.9	2252.3	2276.1
10.5°	1915.3	2007.9	2109.2	2195.9	2257.1	2282.1
11°	1904.9	2001.9	2107.2	2197.9	2261.4	2287.7
11.5°	1895.0	1995.6	2105.2	2199.0	2265.0	2292.4
12°	1884.3	1989.2	2102.9	2200.2	2268.6	2297.2
12.5°	1873.5	1982.4	2100.1	2200.6	2271.8	2301.6
13°	1862.8	1975.7	2097.3	2201.0	2274.2	2305.2
13.5°	1852.1	1968.9	2093.7	2200.6	2276.1	2308.7
14°	1840.9	1961.4	2090.1	2200.2	2278.1	2311.5
14.5°	1829.4	1953.8	2086.2	2199.0	2279.3	2313.9
15°	1817.9	1945.9	2081.4	2197.9	2280.1	2315.9
15.5°	1806.4	1937.5	2076.6	2195.9	2280.5	2317.5
16°	1794.4	1929.6	2071.9	2193.9	2280.5	2318.7
16.5°	1782.5	1920.8	2066.7	2191.1	2280.1	2319.5
17°	1770.2	1912.1	2060.7	2188.3	2279.3	2319.9
17.5°	1757.9	1902.9	2054.8	2184.7	2278.1	2319.5
18°	1745.2	1893.4	2048.4	2181.2	2276.5	2319.1
18.5°	1732.4	1883.9	2041.7	2176.8	2274.2	2317.9
19°	1719.7	1873.9	2034.5	2172.4	2271.8	2316.7
19.5°	1706.6	1864.0	2027.3	2167.2	2268.6	2314.7
20°	1693.5	1853.3	2019.4	2162.1	2265.4	2312.3
20.5°	1680.4	1842.9	2011.5	2156.1	2261.4	2309.5
21°	1666.5	1832.2	2003.1	2150.2	2257.1	2306.4

TEST NUMBER: P776397

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1625.5	1797.6	1976.1	2129.5	2241.6	2294.0
23°	1611.2	1786.1	1966.1	2121.5	2235.6	2288.9
23.5°	1597.7	1774.2	1956.2	2113.6	2229.2	2283.7
24°	1583.0	1761.9	1945.9	2105.2	2222.1	2277.3
24.5°	1568.3	1749.5	1935.1	2096.1	2214.5	2271.0
25°	1554.0	1736.0	1924.0	2086.6	2206.6	2263.8
25.5°	1539.7	1723.3	1912.9	2076.6	2197.9	2256.3
26°	1525.0	1710.2	1901.4	2066.7	2189.5	2248.7
26.5°	1509.5	1697.5	1889.8	2056.0	2180.0	2240.0
27°	1494.8	1683.2	1877.5	2044.8	2170.4	2231.2
27.5°	1479.7	1668.9	1864.8	2033.7	2160.1	2221.7
28°	1464.6	1655.7	1851.7	2021.8	2149.0	2211.8
28.5°	1449.1	1641.4	1838.6	2009.5	2137.4	2201.0
29°	1433.6	1627.1	1825.1	1996.7	2125.5	2189.5
29.5°	1418.5	1612.8	1810.7	1983.2	2112.4	2177.2
30°	1402.6	1597.7	1797.2	1969.3	2098.9	2164.1
30.5°	1386.7	1583.0	1782.1	1954.6	2084.2	2150.6
31°	1371.2	1567.5	1767.8	1939.5	2069.1	2136.6
31.5°	1355.3	1553.2	1752.3	1923.2	2052.8	2121.5
32°	1339.4	1536.5	1736.4	1906.5	2036.5	2106.4
32.5°	1323.5	1521.0	1719.7	1889.4	2019.4	2089.7
33°	1307.2	1504.7	1702.2	1871.2	2001.9	2071.5
33.5°	1291.3	1489.2	1685.2	1852.5	1983.2	2052.4
34°	1275.0	1472.5	1666.1	1832.2	1962.6	2034.1
34.5°	1259.1	1455.4	1646.6	1811.5	1941.1	2013.8
35°	1242.4	1438.3	1626.7	1790.5	1919.2	1993.6
35.5°	1226.5	1420.1	1606.1	1768.6	1897.0	1971.7
36°	1210.2	1401.0	1585.0	1745.6	1873.5	1948.3
36.5°	1193.5	1382.3	1563.1	1721.7	1848.9	1924.4
37°	1176.8	1362.4	1539.7	1696.3	1822.7	1899.0
37.5°	1159.7	1341.0	1516.2	1670.0	1795.2	1872.7
38°	1143.0	1319.9	1490.4	1643.0	1766.2	1845.3
38.5°	1126.0	1298.4	1465.4	1614.4	1736.4	1815.9
39°	1108.5	1276.2	1437.9	1584.2	1705.0	1786.1
39.5°	1090.2	1252.7	1411.7	1552.4	1671.6	1753.9
40°	1071.5	1229.7	1383.1	1519.8	1636.7	1719.7
40.5°	1051.6	1205.8	1355.3	1488.4	1601.7	1684.4
41°	1032.2	1182.0	1327.1	1455.0	1565.9	1648.6
41.5°	1011.9	1158.5	1298.4	1422.0	1529.8	1612.4
42°	991.2	1133.5	1270.2	1389.1	1492.8	1574.7
42.5°	971.3	1108.9	1241.2	1356.1	1457.4	1538.1
43°	950.7	1084.2	1211.4	1322.3	1422.0	1501.5
43.5°	930.0	1060.0	1182.4	1288.9	1385.9	1464.6

TEST NUMBER: P776397

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	867.6	984.1	1093.8	1189.9	1280.6	1355.7
45.5°	846.9	959.8	1064.3	1157.7	1246.4	1321.1
46°	825.9	934.4	1034.9	1124.8	1211.8	1285.7
46.5°	805.2	910.1	1006.3	1093.8	1178.8	1249.2
47°	783.8	885.1	977.7	1062.4	1145.0	1215.4
47.5°	762.3	859.7	947.9	1031.8	1111.6	1179.6
48°	741.6	835.0	919.7	1001.2	1079.1	1146.2
48.5°	721.0	810.4	892.3	972.1	1047.7	1113.6
49°	699.5	786.9	865.2	942.3	1015.9	1079.8
49.5°	679.2	761.9	837.8	913.3	985.7	1048.1
50°	658.6	737.7	810.4	885.1	954.3	1015.5
50.5°	637.9	713.4	785.3	856.9	925.2	982.9
51°	617.6	690.0	759.1	829.9	895.8	953.1
51.5°	598.5	666.1	734.5	802.8	866.8	922.5
52°	577.5	643.9	710.2	777.0	839.0	891.9
52.5°	557.6	621.6	686.0	751.6	811.6	864.0
53°	538.1	598.5	662.1	726.1	784.5	834.2
53.5°	519.1	576.7	639.1	701.9	758.7	806.8
54°	499.6	556.0	616.8	677.2	732.5	778.6
54.5°	481.3	535.0	594.6	654.6	707.8	751.6
55°	462.6	514.3	573.1	631.1	683.6	726.9
55.5°	443.9	494.8	552.4	609.3	659.8	700.7
56°	426.1	475.3	531.4	587.4	636.7	676.8
56.5°	408.6	456.3	511.5	566.4	613.3	651.8
57°	391.5	438.0	491.6	545.3	591.4	628.8
57.5°	374.8	419.7	473.0	525.0	569.9	606.1
58°	358.5	402.2	454.3	505.9	549.3	583.4
58.5°	343.4	384.7	435.6	486.5	528.6	562.0
59°	327.9	368.4	418.9	467.8	508.7	540.1
59.5°	312.4	352.1	400.6	449.5	490.0	519.5
60°	297.3	336.2	384.7	432.0	471.0	498.0
60.5°	283.4	321.1	368.4	414.5	453.5	477.7
61°	269.9	306.0	352.5	397.4	434.8	458.6
61.5°	256.3	291.7	337.4	381.9	417.7	439.6
62°	243.2	277.8	322.7	366.0	401.0	420.9
62.5°	230.9	264.3	308.0	350.5	384.3	402.6
63°	219.0	250.8	294.1	335.4	368.0	385.5
63.5°	207.5	238.1	280.2	321.5	352.1	368.4
64°	196.3	226.1	267.1	307.2	336.6	351.3
64.5°	186.0	214.2	254.8	293.7	322.3	335.0
65°	176.1	203.1	242.4	280.2	307.6	319.9
65.5°	166.1	192.4	230.5	267.9	293.7	305.2
66°	157.0	181.6	218.6	255.6	279.8	290.1



TEST NUMBER: P776397

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	132.0	152.6	187.2	221.0	242.0	250.0
68°	124.4	144.3	176.9	209.8	230.5	237.3
68.5°	116.8	136.3	167.3	199.5	219.0	225.3
69°	110.5	128.8	158.2	189.2	208.3	213.4
69.5°	103.7	121.2	149.4	179.6	197.1	201.9
70°	97.8	113.3	141.5	170.1	187.2	191.2
70.5°	91.8	105.7	133.5	161.0	177.3	180.8
71°	86.6	99.4	126.0	152.2	168.1	170.5
71.5°	81.1	93.0	118.4	143.9	158.6	160.6
72°	76.3	86.6	110.5	136.3	149.8	151.4
72.5°	71.5	81.1	103.7	128.8	141.1	141.5
73°	67.2	75.5	97.0	121.2	133.5	133.5
73.5°	62.8	70.7	91.0	113.7	126.0	125.6
74°	58.8	65.6	85.1	106.1	118.0	117.6
74.5°	54.8	60.8	79.5	99.4	110.5	109.7
75°	51.3	56.4	73.5	93.0	103.7	102.5
75.5°	48.1	52.1	68.4	86.6	97.0	95.0
76°	44.9	48.1	63.2	80.7	90.2	88.2
76.5°	42.1	44.1	58.4	74.7	83.9	81.9
77°	39.3	40.9	54.1	69.2	78.3	75.5
77.5°	36.6	37.8	49.7	64.0	72.7	69.6
78°	34.2	34.6	45.7	59.2	67.2	64.0
78.5°	31.8	31.8	41.7	54.4	62.0	58.4
79°	29.8	29.0	38.2	49.7	56.8	53.3
79.5°	27.4	26.2	35.0	45.3	52.1	48.1
80°	25.0	23.8	31.4	41.3	47.7	43.3
80.5°	23.1	21.9	28.6	37.4	43.3	38.9
81°	21.1	19.5	25.4	33.8	38.9	34.6
81.5°	19.1	17.5	23.1	30.2	35.0	30.2
82°	17.1	15.5	20.3	26.6	31.4	26.2
82.5°	15.5	13.9	17.9	23.8	27.8	22.7
83°	13.5	12.3	15.5	20.7	24.6	19.1
83.5°	11.9	10.3	13.5	17.9	21.5	15.5
84°	10.3	8.7	11.5	15.5	18.7	12.7
84.5°	8.7	7.2	9.5	13.1	15.9	9.9
85°	7.2	6.0	7.6	11.1	13.9	7.2
85.5°	5.6	4.4	6.0	8.7	11.5	4.4
86°	4.4	3.2	4.4	6.4	9.1	3.2
86.5°	3.2	2.0	2.8	4.4	7.2	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: P776397

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-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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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°	2302.8	2282.5	2195.1	2048.8	1858.8	1660.1	1491.6	1384.3	1348.9	1386.7	1494.4
22°	2298.8	2278.1	2189.5	2041.3	1848.9	1646.6	1475.3	1366.4	1330.6	1369.6	1478.1



44°	1428.4	1465.0	1437.9	1335.8	1171.7	957.8	774.2	670.1	635.9	667.7	765.1
44.5°	1392.6	1429.2	1406.9	1308.8	1149.4	939.9	759.5	655.8	621.6	653.4	748.4



66.5°	275.8	293.7	292.9	266.3	234.1	184.4	161.0	152.6	139.9	136.7	131.2
67°	262.7	280.2	278.6	253.2	221.8	174.1	154.2	146.3	133.1	130.4	125.6



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°	1653.4	1820.3	1994.4	2143.4	2252.7	2302.8
22°	1639.0	1809.9	1985.2	2136.6	2247.1	2298.8



44°	908.9	1034.9	1153.0	1255.5	1350.1	1428.4
44.5°	888.3	1009.5	1123.6	1222.5	1315.5	1392.6



66.5°	147.8	171.7	207.9	243.6	267.1	275.8
67°	139.5	161.8	197.1	231.7	254.4	262.7

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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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(END OF REPORT)