

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: P776278

Luminaire Tested: HCDJBS3040CSD-HCD42TRMB-4000lm-4000K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776278  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B051)  
Test Lab:  
Issue Date: 2/13/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBL3040CSD-HCD42TRMB-4000lm-4000K  
Description: 4 INCH ROUND NARROW MATTE BLACK TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

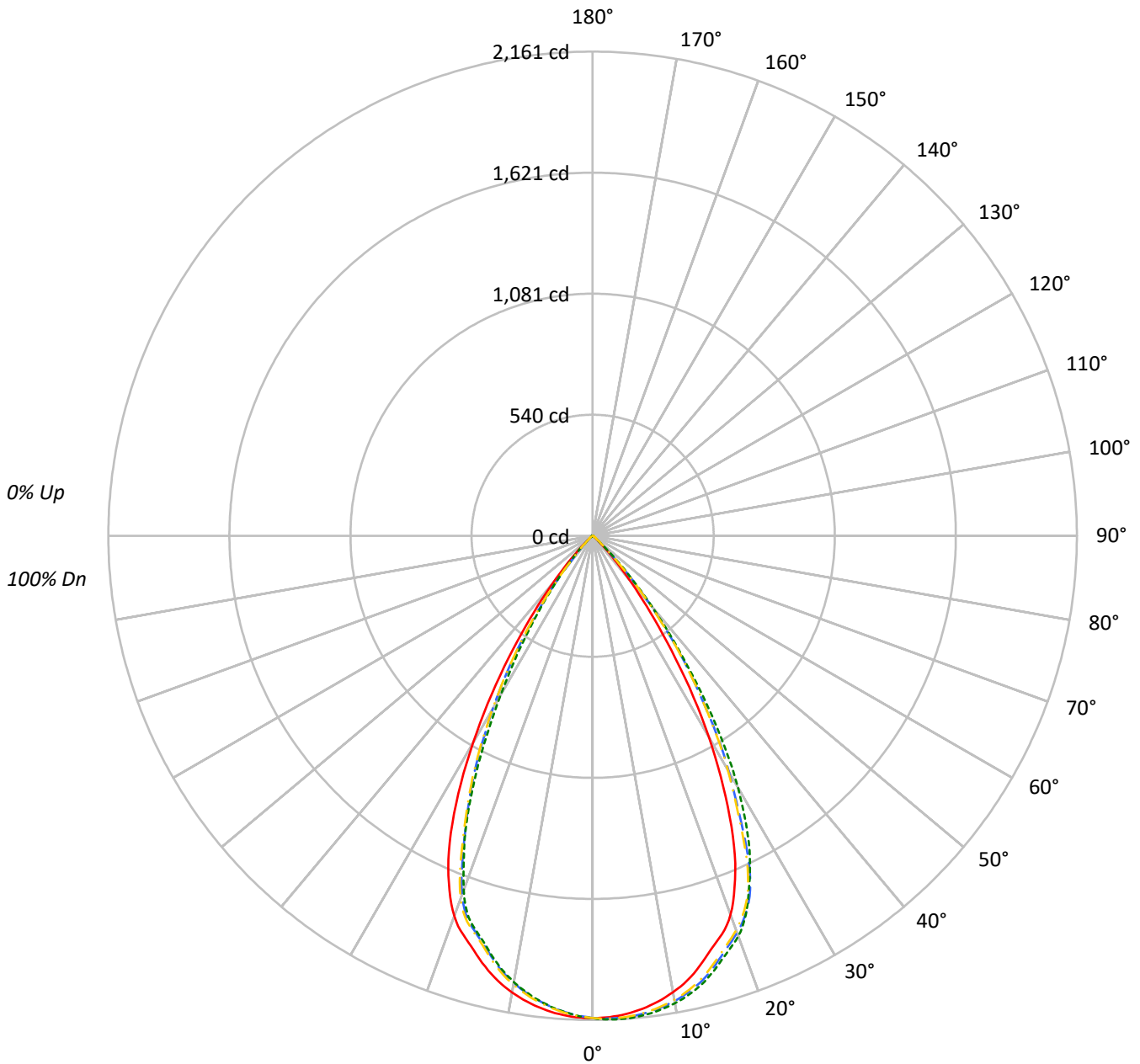
Lumens per Lamp: N/A  
Luminaire Lumens: 1900.8 lumens  
Efficiency: N/A  
Efficacy: 49.4 lumens/watt  
Spacing Criteria (0/90/45): 0.95 / 0.94 / 0.88  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 38.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	50	30	10	0													
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100						100													
1	114	111	109	106	111	109	107	105	105	103	101	101	100	98	98	97	96	94						94													
2	108	103	100	96	106	102	98	95	99	96	93	96	93	91	93	91	89	88						88													
3	103	97	92	88	101	95	91	87	93	89	86	90	87	85	88	85	83	82						82													
4	98	91	85	81	96	89	84	81	87	83	80	85	82	79	83	80	78	76						76													
5	93	85	79	75	91	84	79	75	82	78	74	81	77	73	79	76	73	71						71													
6	89	80	74	70	87	79	74	70	78	73	69	76	72	69	75	71	68	67						67													
7	84	75	69	65	83	74	69	65	73	68	65	72	68	64	71	67	64	63						63													
8	80	71	65	61	79	70	65	61	69	64	61	68	64	60	67	63	60	59						59													
9	76	67	61	57	75	67	61	57	66	61	57	65	60	57	64	60	57	55						55													
10	73	63	58	54	72	63	58	54	62	57	54	61	57	54	61	56	53	52						52													

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	270892	270892	270892	270892
5°	269324	272482	269425	266633
10°	264311	270687	264464	258496
15°	253895	264448	254585	244618
20°	240974	254675	241898	225131
25°	205638	230507	209720	178407
30°	150783	188464	154881	119307
35°	89077	126011	95391	67983
40°	40874	67209	45573	30886
45°	12619	22852	14398	9024
50°	4014	4581	4092	3465
55°	2479	2830	2479	2128
60°	1510	1712	1611	1410
65°	1072	1072	1072	953
70°	736	736	736	589
75°	389	583	389	389
80°	290	290	290	290
85°	0	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°

Vertical Angle: 45°

Luminance: 23867 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	201.5	10.6
10°-20°	548.0	28.8
20°-30°	665.1	35.0
30°-40°	391.9	20.6
40°-50°	78.8	4.1
50°-60°	10.7	0.6
60°-70°	3.6	0.2
70°-80°	1.1	0.1
80°-90°	0.1	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°	1414.6	74.4
0°-40°	1806.4	95.0
0°-60°	1896.0	99.7
0°-90°	1900.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1900.8	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2152	2152	2152	2152	2152	
5°	2132	2157	2133	2111	2132	202
15°	1949	2030	1954	1878	1949	548
25°	1481	1660	1510	1285	1481	664
35°	580	820	621	442	580	369
45°	71	128	81	51	71	69
55°	11	13	11	10	11	11
65°	4	4	4	3	4	4
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	2154.1	2152.9	2152.1	2156.5	2154.9	2153.7	2153.3	2152.9	2152.5	2149.2
1°	2152.1	2154.1	2154.1	2153.7	2158.1	2156.5	2154.9	2153.7	2152.5	2150.8	2146.4
1.5°	2151.2	2154.1	2155.3	2155.3	2159.3	2157.7	2155.3	2153.3	2151.2	2148.8	2143.6
2°	2149.6	2153.3	2155.7	2156.1	2160.1	2158.5	2155.7	2152.9	2150.0	2146.8	2140.0
2.5°	2147.6	2152.5	2155.7	2156.5	2160.9	2158.9	2155.3	2152.1	2148.0	2144.0	2135.9
3°	2145.2	2150.8	2155.3	2156.9	2160.9	2158.9	2154.9	2150.4	2146.0	2140.8	2131.9
3.5°	2142.8	2149.2	2154.9	2156.5	2160.5	2158.1	2153.7	2148.8	2143.2	2137.2	2127.5
4°	2139.6	2146.8	2153.7	2155.7	2159.7	2157.3	2152.5	2146.4	2140.0	2133.1	2122.3
4.5°	2135.9	2144.4	2152.5	2154.9	2158.5	2156.1	2150.4	2144.0	2136.8	2129.1	2116.6
5°	2131.9	2141.2	2150.4	2153.3	2156.9	2154.1	2148.4	2141.2	2132.7	2124.3	2110.6
5.5°	2127.5	2138.0	2148.0	2151.6	2154.9	2152.1	2145.6	2138.0	2128.3	2119.0	2104.5
6°	2122.7	2133.9	2145.2	2149.2	2152.5	2149.2	2142.4	2133.9	2123.5	2113.4	2097.7
6.5°	2117.4	2129.9	2142.0	2146.4	2150.0	2146.4	2138.8	2129.5	2118.2	2107.0	2090.4
7°	2112.2	2125.1	2138.4	2143.2	2146.4	2142.8	2135.1	2124.7	2113.0	2100.5	2082.4
7.5°	2105.7	2119.8	2134.3	2140.0	2142.8	2138.8	2131.1	2119.8	2107.0	2093.3	2074.3
8°	2099.3	2114.2	2130.3	2135.9	2138.8	2134.7	2125.9	2114.2	2100.1	2086.0	2065.9
8.5°	2092.1	2108.2	2125.1	2131.5	2134.3	2129.9	2120.6	2108.2	2093.3	2078.4	2056.6
9°	2084.8	2101.7	2119.8	2126.7	2129.5	2125.1	2115.0	2101.7	2086.0	2069.9	2047.4
9.5°	2076.8	2094.5	2114.2	2121.5	2124.3	2119.4	2109.0	2094.9	2078.0	2061.5	2036.9
10°	2068.3	2087.2	2108.2	2115.8	2118.2	2113.8	2102.5	2087.6	2069.5	2051.8	2026.4
10.5°	2059.0	2079.2	2101.7	2109.8	2112.2	2107.0	2095.7	2079.6	2060.7	2042.1	2015.6
11°	2050.2	2071.1	2094.5	2102.9	2105.3	2100.1	2088.0	2071.1	2051.8	2031.7	2003.9
11.5°	2040.1	2062.3	2086.8	2096.1	2098.1	2092.5	2080.0	2062.3	2041.7	2020.8	1991.0
12°	2029.2	2052.6	2078.8	2088.8	2090.4	2084.8	2071.5	2053.0	2031.3	2009.1	1977.7
12.5°	2017.6	2042.1	2070.3	2080.4	2082.4	2076.0	2062.3	2042.9	2020.0	1996.6	1963.6
13°	2005.1	2031.7	2060.7	2071.9	2073.1	2067.1	2052.6	2032.5	2008.3	1983.8	1948.7
13.5°	1991.8	2019.6	2051.4	2062.7	2063.5	2057.0	2042.1	2020.8	1995.4	1970.1	1933.4
14°	1978.1	2007.5	2040.9	2052.6	2053.4	2046.6	2030.9	2008.7	1982.1	1955.2	1916.9
14.5°	1963.6	1994.2	2029.7	2041.7	2041.7	2034.5	2019.2	1995.8	1968.5	1939.9	1901.2
15°	1948.7	1980.1	2017.6	2030.1	2029.7	2022.8	2006.3	1982.5	1954.0	1924.6	1885.5
15.5°	1933.8	1965.6	2004.7	2017.6	2017.6	2009.9	1993.0	1968.5	1939.1	1909.3	1871.4
16°	1919.7	1951.5	1991.0	2004.7	2004.3	1996.6	1979.3	1954.0	1924.2	1894.4	1857.7
16.5°	1906.8	1937.4	1976.9	1991.0	1990.2	1982.9	1965.2	1939.9	1910.5	1880.7	1844.0
17°	1893.6	1924.6	1962.8	1977.7	1976.9	1969.3	1951.1	1926.2	1897.2	1867.8	1830.4
17.5°	1881.1	1911.7	1949.5	1964.0	1964.0	1956.4	1937.9	1913.3	1884.3	1854.5	1816.7
18°	1868.2	1899.2	1936.2	1951.5	1952.3	1943.9	1925.8	1900.4	1871.0	1840.8	1800.6
18.5°	1854.5	1885.9	1923.8	1939.5	1939.9	1931.8	1912.5	1886.7	1857.3	1826.3	1782.0
19°	1838.4	1873.0	1910.9	1927.0	1927.8	1919.3	1899.6	1874.2	1842.4	1809.4	1759.5
19.5°	1819.9	1858.5	1898.4	1914.1	1915.7	1906.8	1886.7	1859.7	1825.5	1789.3	1733.7
20°	1799.3	1842.0	1885.1	1902.0	1901.6	1893.2	1873.0	1844.4	1806.2	1766.3	1703.5
20.5°	1775.6	1823.5	1871.4	1887.9	1885.5	1877.9	1858.1	1827.5	1784.0	1741.0	1669.7
21°	1749.8	1803.8	1856.1	1872.2	1867.0	1860.1	1842.0	1808.6	1760.7	1712.4	1630.6



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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°	1660.8	1729.3	1802.2	1813.4	1799.8	1796.9	1784.5	1740.6	1676.5	1609.7	1504.6
23°	1628.6	1699.9	1780.0	1790.1	1773.2	1771.2	1761.9	1713.6	1647.2	1571.1	1463.2
23.5°	1595.6	1668.9	1755.5	1763.9	1744.6	1743.4	1735.3	1683.4	1615.3	1530.8	1422.1
24°	1559.0	1635.9	1728.1	1734.9	1716.4	1715.2	1706.3	1651.6	1582.3	1490.1	1383.4
24.5°	1520.7	1600.9	1697.1	1705.1	1688.6	1684.2	1672.9	1618.6	1547.3	1449.5	1344.4
25°	1480.9	1564.6	1660.4	1672.9	1660.0	1653.6	1637.5	1583.1	1510.3	1410.8	1305.3
25.5°	1438.6	1526.0	1621.4	1641.5	1631.5	1623.0	1596.8	1545.3	1470.0	1372.6	1265.9
26°	1395.5	1484.1	1576.7	1607.7	1601.3	1591.6	1552.5	1505.0	1428.5	1335.1	1225.6
26.5°	1350.8	1439.0	1529.2	1573.1	1569.0	1556.6	1505.4	1462.3	1385.0	1296.5	1184.1
27°	1306.1	1392.3	1479.7	1535.6	1534.8	1520.3	1459.9	1417.3	1342.0	1257.4	1141.5
27.5°	1261.8	1343.2	1430.9	1497.8	1496.6	1482.1	1413.6	1370.1	1296.5	1218.0	1096.8
28°	1218.0	1292.8	1383.4	1455.5	1457.5	1442.6	1369.3	1319.8	1250.6	1177.3	1052.9
28.5°	1173.7	1242.9	1339.1	1412.4	1416.9	1399.1	1325.9	1271.5	1206.7	1135.4	1009.8
29°	1128.2	1193.8	1296.9	1366.5	1377.8	1354.4	1286.8	1224.0	1159.2	1091.5	968.7
29.5°	1083.1	1143.9	1257.0	1319.8	1337.5	1308.1	1246.1	1177.7	1112.1	1044.8	928.1
30°	1037.6	1097.6	1216.7	1271.9	1296.9	1262.2	1206.3	1133.0	1065.8	999.3	887.8
30.5°	992.1	1049.7	1176.5	1226.4	1253.4	1215.9	1166.0	1087.9	1020.7	953.0	848.7
31°	944.6	1003.8	1133.4	1181.3	1209.5	1171.6	1124.5	1043.6	974.0	907.9	809.3
31.5°	897.9	957.0	1089.5	1136.6	1161.6	1127.4	1079.9	999.3	928.1	863.2	769.8
32°	850.8	912.0	1043.6	1093.5	1113.3	1084.3	1034.8	954.6	882.6	820.6	730.0
32.5°	803.6	868.1	996.9	1052.1	1063.7	1040.0	989.3	909.1	838.7	778.7	687.7
33°	756.5	824.6	949.4	1009.4	1014.2	997.3	943.8	862.4	793.2	737.6	646.2
33.5°	709.8	781.1	903.5	966.3	965.5	952.6	898.7	817.7	748.9	696.1	605.6
34°	664.3	740.0	860.0	922.4	916.8	909.1	856.0	774.7	705.4	653.9	566.1
34.5°	620.9	698.6	818.5	878.5	868.5	863.6	816.1	732.4	663.1	611.6	526.6
35°	579.8	657.9	776.7	833.0	820.2	819.3	774.7	691.7	620.9	569.3	489.2
35.5°	540.3	619.2	737.2	787.9	773.4	776.3	735.2	652.3	580.6	528.2	453.0
36°	502.1	583.0	697.8	743.3	728.0	732.8	694.5	615.2	541.5	487.6	417.9
36.5°	464.6	546.8	658.3	701.0	682.9	688.9	653.5	578.6	504.1	448.9	383.3
37°	429.2	510.1	617.6	659.1	639.8	645.8	611.6	542.7	465.8	411.5	348.7
37.5°	395.8	475.1	577.8	618.8	598.7	603.5	570.1	506.9	431.6	378.9	314.1
38°	363.2	439.7	537.1	579.0	558.8	562.5	529.5	472.3	398.2	346.7	279.8
38.5°	331.8	405.0	498.1	538.3	520.2	521.4	490.0	437.7	368.0	314.1	248.0
39°	302.8	371.2	461.4	500.1	482.3	482.3	451.3	403.4	337.8	281.8	218.6
39.5°	275.0	338.6	426.0	461.8	445.3	443.7	415.5	371.2	307.6	255.3	191.7
40°	248.8	307.6	393.4	424.0	409.1	407.1	383.7	339.4	277.4	227.9	167.9
40.5°	224.3	277.8	360.8	386.9	376.5	372.4	351.9	307.6	250.4	202.9	147.0
41°	200.9	249.6	330.2	350.3	343.8	338.2	320.1	275.8	225.9	179.6	128.8
41.5°	180.0	223.9	300.0	316.1	311.2	304.0	288.3	247.6	202.1	157.8	113.1
42°	160.2	199.7	270.2	283.5	278.6	269.4	256.5	221.4	180.4	138.1	100.3
42.5°	142.1	177.2	241.2	253.3	250.8	239.6	227.5	196.1	160.2	121.2	89.0
43°	127.6	155.8	212.2	224.7	223.1	211.4	199.3	172.7	141.7	105.9	78.1
43.5°	113.5	138.1	185.2	198.1	198.1	185.6	173.1	151.8	124.4	92.6	68.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	70.9	91.0	120.4	134.1	128.4	120.8	109.1	97.4	80.9	61.2	45.9
45.5°	60.8	75.7	103.9	117.6	108.7	103.5	92.2	83.3	69.3	52.7	41.1
46°	51.5	64.0	87.8	101.1	91.8	87.8	78.1	70.1	58.4	45.1	36.6
46.5°	43.1	53.5	71.3	84.6	76.5	74.1	65.6	59.2	49.1	40.7	31.8
47°	36.2	44.3	60.0	68.4	63.2	61.6	54.8	49.1	43.9	35.8	27.4
47.5°	30.2	36.6	49.5	56.8	51.9	51.1	49.5	43.9	38.7	31.4	22.5
48°	26.2	30.2	41.1	46.7	46.3	45.5	44.3	38.7	33.4	27.0	20.9
48.5°	23.8	26.2	33.8	37.8	40.3	40.3	39.1	33.8	28.2	22.5	20.1
49°	22.5	23.8	28.6	31.0	34.6	34.6	33.8	28.6	22.9	21.3	19.3
49.5°	21.3	22.5	25.4	26.6	29.0	29.0	28.2	23.8	21.7	20.1	18.5
50°	20.5	21.3	23.4	24.2	23.4	23.8	22.9	22.1	20.9	19.3	17.3
50.5°	19.3	20.5	22.1	22.5	22.1	22.5	22.1	21.3	19.7	18.5	16.5
51°	18.5	19.3	21.3	21.7	21.3	21.3	20.9	20.1	18.9	17.3	15.3
51.5°	17.3	18.5	20.1	20.5	20.1	20.1	19.7	18.9	17.7	16.5	14.5
52°	16.5	17.3	19.3	19.7	19.3	19.3	18.9	17.7	16.5	15.3	13.7
52.5°	15.3	16.1	18.1	18.5	18.1	18.1	17.7	16.9	15.7	14.5	12.9
53°	14.5	15.3	16.9	17.3	16.9	16.9	16.5	15.7	14.5	13.7	12.1
53.5°	13.7	14.1	15.7	16.1	15.7	15.7	15.3	14.9	13.7	12.9	11.3
54°	12.9	13.3	14.9	15.3	14.9	14.9	14.5	13.7	12.9	12.1	10.9
54.5°	12.1	12.5	14.1	14.5	13.7	13.7	13.7	12.9	12.1	11.3	10.1
55°	11.3	12.1	12.9	13.3	12.9	12.9	12.9	12.1	11.3	10.9	9.7
55.5°	10.5	11.3	12.1	12.5	12.1	12.1	12.1	11.3	10.9	10.1	8.9
56°	10.1	10.5	11.3	11.7	11.3	11.3	11.3	10.9	10.1	9.7	8.5
56.5°	9.3	9.7	10.9	10.9	10.9	10.9	10.5	10.1	9.7	8.9	8.1
57°	8.9	9.3	10.1	10.5	10.1	10.1	10.1	9.7	8.9	8.5	7.6
57.5°	8.1	8.5	9.3	9.7	9.3	9.3	9.3	8.9	8.5	8.1	7.2
58°	7.6	8.1	8.9	9.3	8.9	8.9	8.9	8.5	8.1	7.6	6.8
58.5°	7.2	7.6	8.5	8.5	8.5	8.5	8.1	8.1	7.6	7.2	6.4
59°	6.8	7.2	7.6	8.1	7.6	7.6	7.6	7.6	7.2	6.8	6.0
59.5°	6.4	6.8	7.2	7.6	7.2	7.2	7.2	6.8	6.8	6.4	5.6
60°	6.0	6.4	6.8	7.2	6.8	6.8	6.8	6.4	6.4	6.0	5.2
60.5°	5.6	6.0	6.4	6.8	6.4	6.4	6.4	6.0	6.0	5.6	5.2
61°	5.6	5.6	6.0	6.4	6.0	6.0	6.0	6.0	5.6	5.2	4.8
61.5°	5.2	5.2	5.6	6.0	5.6	5.6	5.6	5.6	5.2	4.8	4.4
62°	4.8	4.8	5.6	5.6	5.6	5.6	5.2	5.2	4.8	4.8	4.4
62.5°	4.4	4.8	5.2	5.2	5.2	5.2	5.2	4.8	4.8	4.4	4.0
63°	4.4	4.4	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4	4.0
63.5°	4.0	4.0	4.4	4.8	4.4	4.4	4.4	4.4	4.0	4.0	3.6
64°	4.0	4.0	4.4	4.4	4.4	4.4	4.4	4.0	4.0	3.6	3.6
64.5°	3.6	3.6	4.0	4.0	4.0	4.0	4.0	4.0	3.6	3.6	3.2
65°	3.6	3.6	4.0	4.0	3.6	3.6	3.6	3.6	3.6	3.2	3.2
65.5°	3.2	3.2	3.6	3.6	3.6	3.6	3.6	3.6	3.2	3.2	2.8
66°	3.2	3.2	3.2	3.6	3.2	3.2	3.2	3.2	3.2	2.8	2.8





TEST NUMBER: P776278

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMB-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	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.4	2.4
68°	2.4	2.4	2.8	2.8	2.8	2.8	2.8	2.4	2.4	2.4	2.0
68.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.0
69°	2.0	2.0	2.4	2.4	2.4	2.4	2.4	2.4	2.0	2.0	2.0
69.5°	2.0	2.0	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0	2.0
70°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.6
70.5°	1.6	1.6	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.6
71°	1.6	1.6	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.6	1.6
71.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
72°	1.2	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.2
72.5°	1.2	1.2	1.6	1.6	1.6	1.6	1.6	1.6	1.2	1.2	1.2
73°	1.2	1.2	1.6	1.6	1.6	1.6	1.6	1.2	1.2	1.2	1.2
73.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
74°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
74.5°	0.8	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8
75°	0.8	0.8	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8
75.5°	0.8	0.8	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8	0.8
76°	0.8	0.8	0.8	0.8	0.8	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	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°	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4
78°	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4
78.5°	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4
79°	0.4	0.4	0.4	0.8	0.4	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	0.4	0.4	0.4	0.4	0.4
80°	0.4	0.4	0.4	0.4	0.4	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	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°	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
82°	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0
82.5°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0
83°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	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	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: P776278

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMB-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: P776278

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMB-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°	2147.2	2151.6	2150.4	2150.4	2151.2	2152.9
1°	2144.0	2148.8	2148.0	2148.0	2150.0	2152.1
1.5°	2140.8	2145.6	2144.8	2145.6	2148.0	2151.2
2°	2136.8	2141.6	2141.2	2142.4	2145.6	2149.6
2.5°	2132.3	2137.6	2137.2	2138.8	2142.8	2147.6
3°	2127.9	2133.1	2132.7	2135.1	2139.6	2145.2
3.5°	2122.7	2127.9	2127.9	2130.7	2136.3	2142.8
4°	2117.0	2122.7	2122.7	2125.9	2131.9	2139.6
4.5°	2111.4	2116.6	2117.0	2120.6	2127.5	2135.9
5°	2104.5	2110.6	2111.0	2115.4	2122.7	2131.9
5.5°	2098.1	2103.7	2104.1	2109.4	2117.8	2127.5
6°	2090.4	2096.5	2097.3	2102.9	2111.8	2122.7
6.5°	2083.2	2088.8	2090.0	2095.7	2105.7	2117.4
7°	2074.7	2080.8	2082.0	2088.8	2099.3	2112.2
7.5°	2065.9	2072.3	2073.9	2080.8	2092.1	2105.7
8°	2057.0	2063.1	2065.1	2072.3	2084.8	2099.3
8.5°	2047.4	2053.8	2055.8	2063.5	2076.8	2092.1
9°	2037.3	2043.7	2046.2	2054.6	2068.3	2084.8
9.5°	2027.2	2033.7	2036.1	2044.5	2059.4	2076.8
10°	2016.0	2022.8	2025.2	2034.9	2050.2	2068.3
10.5°	2004.7	2011.1	2013.9	2024.0	2040.1	2059.0
11°	1991.8	1999.1	2002.3	2012.3	2029.2	2050.2
11.5°	1978.9	1985.8	1989.0	1999.9	2018.0	2040.1
12°	1965.2	1972.5	1975.3	1987.0	2005.9	2029.2
12.5°	1950.3	1957.6	1960.4	1972.1	1992.6	2017.6
13°	1935.0	1941.9	1944.7	1957.6	1979.3	2005.1
13.5°	1918.9	1926.2	1929.4	1942.3	1964.4	1991.8
14°	1902.0	1909.7	1912.9	1926.2	1949.5	1978.1
14.5°	1885.9	1893.2	1896.4	1910.5	1933.8	1963.6
15°	1871.0	1877.5	1880.7	1894.0	1918.5	1948.7
15.5°	1856.9	1863.0	1866.6	1879.5	1903.2	1933.8
16°	1842.8	1849.3	1852.9	1865.8	1889.5	1919.7
16.5°	1828.7	1835.6	1838.8	1852.5	1876.7	1906.8
17°	1815.1	1821.9	1825.1	1839.2	1863.8	1893.6
17.5°	1800.2	1807.4	1811.0	1825.9	1850.5	1881.1
18°	1780.8	1790.9	1794.9	1811.4	1837.2	1868.2
18.5°	1759.1	1768.7	1774.0	1794.5	1821.9	1854.5
19°	1734.1	1744.2	1751.4	1774.0	1803.8	1838.4
19.5°	1705.5	1714.8	1724.1	1750.2	1782.8	1819.9
20°	1673.3	1681.0	1693.5	1721.6	1758.7	1799.3
20.5°	1638.3	1645.1	1659.2	1690.2	1730.5	1775.6
21°	1601.3	1607.7	1622.6	1654.4	1699.1	1749.8

TEST NUMBER: P776278

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMB-4000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1475.6	1496.2	1501.0	1529.6	1586.8	1660.8
23°	1431.7	1459.1	1459.1	1485.7	1544.5	1628.6
23.5°	1387.5	1418.9	1416.4	1442.2	1504.2	1595.6
24°	1345.2	1376.6	1371.8	1399.1	1464.0	1559.0
24.5°	1301.3	1331.9	1327.1	1358.9	1425.3	1520.7
25°	1258.6	1284.8	1283.2	1317.0	1387.9	1480.9
25.5°	1217.1	1238.9	1238.9	1276.7	1350.4	1438.6
26°	1176.1	1191.0	1193.4	1236.1	1312.2	1395.5
26.5°	1133.4	1145.1	1148.7	1196.2	1273.1	1350.8
27°	1091.1	1096.8	1105.2	1153.5	1232.0	1306.1
27.5°	1048.0	1049.7	1061.7	1110.5	1189.4	1261.8
28°	1006.2	1003.4	1017.8	1065.8	1143.5	1218.0
28.5°	963.5	956.2	976.4	1021.1	1097.6	1173.7
29°	920.8	908.7	932.9	976.8	1048.8	1128.2
29.5°	878.1	864.4	890.6	934.9	1004.2	1083.1
30°	835.9	821.0	847.1	892.2	957.5	1037.6
30.5°	792.8	777.9	804.0	850.8	914.0	992.1
31°	750.9	736.8	758.6	809.7	870.5	944.6
31.5°	708.6	698.2	715.1	771.0	828.2	897.9
32°	668.0	659.5	673.6	732.0	786.3	850.8
32.5°	627.3	622.1	633.7	692.9	746.5	803.6
33°	589.0	584.2	595.5	652.3	705.0	756.5
33.5°	550.8	546.0	558.8	612.4	662.7	709.8
34°	514.2	510.1	522.6	572.9	619.6	664.3
34.5°	479.1	475.5	488.0	533.1	578.2	620.9
35°	444.5	442.5	453.4	494.8	535.9	579.8
35.5°	410.7	411.1	421.6	457.8	494.8	540.3
36°	381.3	382.5	389.3	422.0	455.4	502.1
36.5°	352.3	353.9	358.3	387.3	417.9	464.6
37°	322.9	327.3	328.9	353.5	382.5	429.2
37.5°	293.9	301.2	301.2	320.5	348.7	395.8
38°	264.5	275.4	275.4	288.3	316.5	363.2
38.5°	240.8	251.6	250.4	257.7	285.5	331.8
39°	217.0	229.1	227.5	229.1	256.5	302.8
39.5°	194.9	207.8	205.7	202.1	229.1	275.0
40°	173.5	188.0	185.2	176.8	202.1	248.8
40.5°	155.0	168.7	165.5	155.0	178.4	224.3
41°	136.5	151.4	147.0	137.3	156.2	200.9
41.5°	120.4	136.9	132.9	123.6	136.9	180.0
42°	105.5	122.8	118.8	109.9	123.2	160.2
42.5°	92.6	108.7	105.1	96.6	109.5	142.1
43°	80.9	94.6	91.0	82.9	95.8	127.6
43.5°	70.5	80.5	76.9	73.3	82.1	113.5



TEST NUMBER: P776278

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMB-4000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	46.7	50.7	49.1	49.1	54.8	70.9
45.5°	41.1	42.7	41.5	42.7	47.9	60.8
46°	35.0	35.4	35.4	36.6	41.1	51.5
46.5°	29.4	29.4	29.8	31.4	35.0	43.1
47°	23.8	25.4	25.4	27.0	29.8	36.2
47.5°	21.7	22.9	22.9	24.2	26.2	30.2
48°	20.5	21.3	21.7	22.5	23.8	26.2
48.5°	19.7	20.5	20.5	21.3	22.1	23.8
49°	18.9	19.7	19.7	20.5	21.3	22.5
49.5°	17.7	18.5	18.9	19.3	20.5	21.3
50°	16.9	17.7	17.7	18.5	19.3	20.5
50.5°	15.7	16.5	16.9	17.3	18.5	19.3
51°	14.9	15.7	15.7	16.5	17.3	18.5
51.5°	14.1	14.9	14.9	15.3	16.5	17.3
52°	13.3	13.7	14.1	14.5	15.3	16.5
52.5°	12.5	12.9	13.3	13.7	14.5	15.3
53°	11.7	12.1	12.5	12.9	13.7	14.5
53.5°	11.3	11.7	11.7	12.1	12.9	13.7
54°	10.5	10.9	10.9	11.7	12.1	12.9
54.5°	10.1	10.1	10.5	10.9	11.3	12.1
55°	9.3	9.7	9.7	10.1	10.9	11.3
55.5°	8.9	9.3	9.3	9.7	10.1	10.5
56°	8.5	8.5	8.9	9.3	9.7	10.1
56.5°	7.6	8.1	8.1	8.5	8.9	9.3
57°	7.2	7.6	7.6	8.1	8.5	8.9
57.5°	6.8	7.2	7.2	7.6	8.1	8.1
58°	6.4	6.8	6.8	7.2	7.6	7.6
58.5°	6.4	6.4	6.4	6.8	7.2	7.2
59°	6.0	6.0	6.0	6.4	6.8	6.8
59.5°	5.6	5.6	6.0	6.0	6.4	6.4
60°	5.2	5.6	5.6	5.6	6.0	6.0
60.5°	4.8	5.2	5.2	5.2	5.6	5.6
61°	4.8	4.8	4.8	5.2	5.2	5.6
61.5°	4.4	4.4	4.8	4.8	4.8	5.2
62°	4.4	4.4	4.4	4.4	4.8	4.8
62.5°	4.0	4.0	4.0	4.4	4.4	4.4
63°	3.6	4.0	4.0	4.0	4.0	4.4
63.5°	3.6	3.6	3.6	4.0	4.0	4.0
64°	3.2	3.6	3.6	3.6	3.6	4.0
64.5°	3.2	3.2	3.2	3.2	3.6	3.6
65°	3.2	3.2	3.2	3.2	3.2	3.6
65.5°	2.8	2.8	2.8	3.2	3.2	3.2
66°	2.8	2.8	2.8	2.8	2.8	3.2



TEST NUMBER: P776278  
 CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMB-4000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	2.4	2.4	2.4	2.4	2.4	2.4
68°	2.0	2.4	2.4	2.4	2.4	2.4
68.5°	2.0	2.0	2.0	2.0	2.0	2.4
69°	2.0	2.0	2.0	2.0	2.0	2.0
69.5°	1.6	2.0	2.0	2.0	2.0	2.0
70°	1.6	1.6	1.6	1.6	2.0	2.0
70.5°	1.6	1.6	1.6	1.6	1.6	1.6
71°	1.6	1.6	1.6	1.6	1.6	1.6
71.5°	1.6	1.6	1.6	1.6	1.6	1.6
72°	1.2	1.2	1.2	1.2	1.2	1.2
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°	1.2	1.2	1.2	1.2	1.2	1.2
74°	1.2	1.2	1.2	1.2	1.2	1.2
74.5°	0.8	0.8	0.8	0.8	0.8	0.8
75°	0.8	0.8	0.8	0.8	0.8	0.8
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	0.8	0.8	0.8	0.8
77.5°	0.4	0.8	0.8	0.8	0.4	0.4
78°	0.4	0.4	0.4	0.4	0.4	0.4
78.5°	0.4	0.4	0.4	0.4	0.4	0.4
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	0.0	0.0
82°	0.4	0.4	0.4	0.4	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0
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: P776278  
CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMB-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



Report Generated By 670245859 / DESKTOP-T8S5UU9



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Scaled Data Report





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

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21.5°	1721.6	1781.2	1839.6	1854.1	1846.9	1841.2	1824.3	1788.1	1734.1	1680.6	1590.0
22°	1691.4	1756.3	1821.1	1835.2	1824.3	1819.9	1805.8	1765.9	1705.9	1646.3	1547.3



44°	99.4	122.4	159.8	173.5	172.7	161.5	149.4	131.7	108.3	80.9	60.8
44.5°	85.0	106.7	136.9	150.6	149.8	140.1	128.0	113.5	93.8	70.5	53.1



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



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°	1561.8	1570.3	1583.9	1614.9	1664.5	1721.6
22°	1520.3	1532.4	1543.3	1573.5	1626.2	1691.4



44°	61.2	69.7	66.4	64.4	72.1	99.4
44.5°	52.3	60.0	57.6	56.8	63.2	85.0



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

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

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(END OF REPORT)