

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: P776396

Luminaire Tested: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-3000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776396
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-3000K
Description: 6 INCH ROUND MEDIUM LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

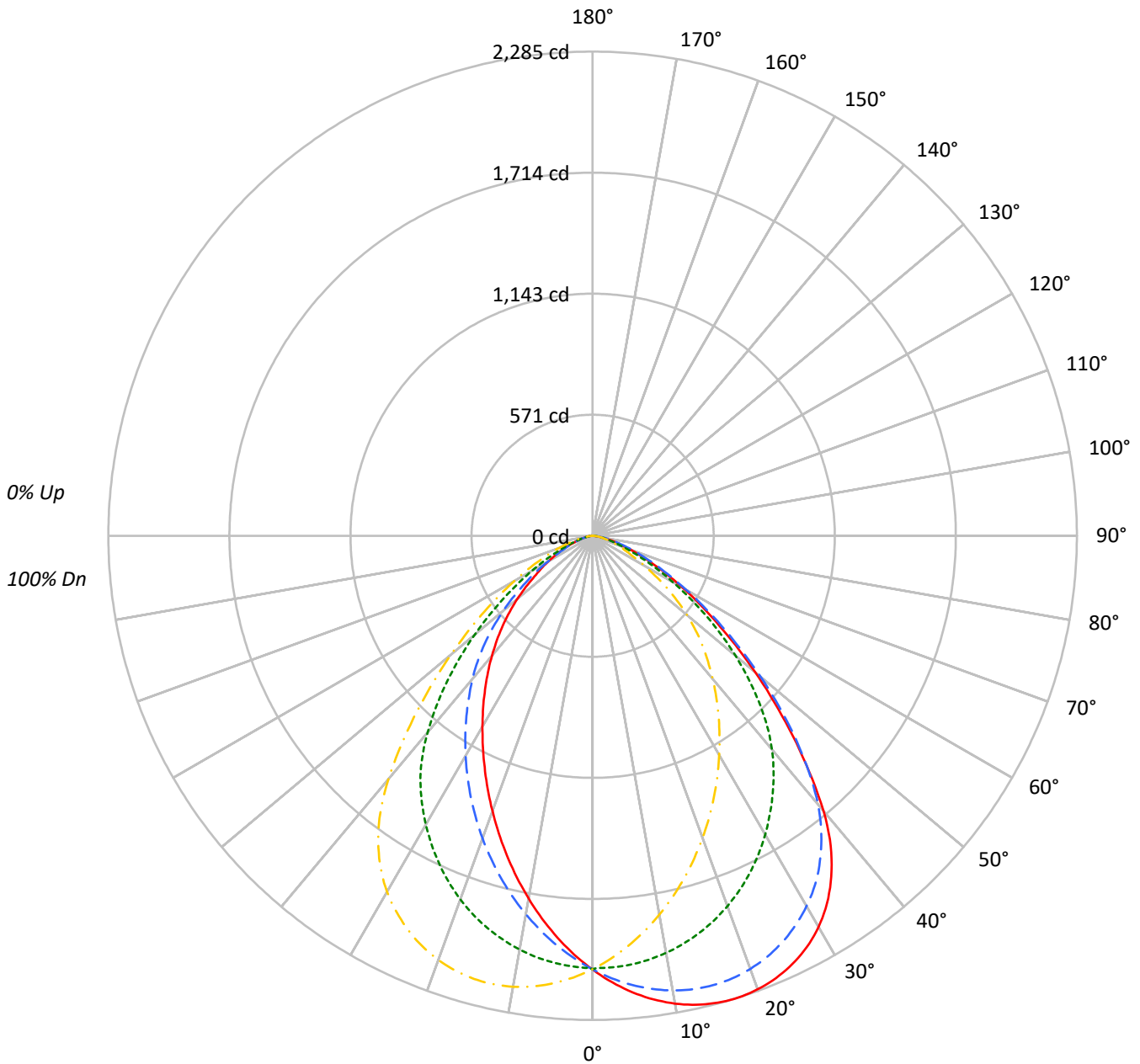
Lumens per Lamp: N/A
Luminaire Lumens: 4021.3 lumens
Efficiency: N/A
Efficacy: 104.5 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.17 / 1.23
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

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					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								
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°	112129	112129	112129	112129
5°	119023	111804	104760	111374
10°	124803	111248	96775	110374
15°	129462	110154	88627	108780
20°	132872	108527	80618	106491
25°	134875	106155	72930	103433
30°	134932	103035	65820	99617
35°	131410	99160	59207	94810
40°	121220	94184	52863	86677
45°	103522	86071	46439	75147
50°	85302	75085	39530	61968
55°	68432	61885	32028	48419
60°	53779	47946	26434	36313
65°	40873	35140	20664	25943
70°	30181	24652	15371	17888
75°	21393	17157	11438	11777
80°	13480	12249	8145	7419
85°	4403	9624	4214	3711

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 106437 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	192.7	4.8
10°-20°	542.4	13.5
20°-30°	792.9	19.7
30°-40°	891.1	22.2
40°-50°	768.6	19.1
50°-60°	493.6	12.3
60°-70°	239.4	6.0
70°-80°	85.7	2.1
80°-90°	14.8	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°	1528.0	38.0
0°-40°	2419.2	60.2
0°-60°	3681.4	91.5
0°-90°	4021.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4021.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2045	2045	2045	2045	2045	
5°	2163	2032	1904	2024	2163	209
15°	2281	1941	1562	1917	2281	645
25°	2230	1755	1206	1710	2230	1026
35°	1964	1482	885	1417	1964	1217
45°	1335	1110	599	969	1335	1030
55°	716	648	335	507	716	647
65°	315	271	159	200	315	319
75°	101	81	54	56	101	111
85°	7	15	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°	2045.4	2045.4	2045.4	2045.4	2045.4	2045.4	2045.4	2045.4	2045.4	2045.4	2045.4
0.5°	2060.7	2059.2	2056.0	2051.3	2040.4	2037.6	2036.1	2035.3	2034.5	2034.9	2037.2
1°	2072.9	2070.9	2065.0	2056.0	2040.4	2032.9	2026.7	2023.1	2020.8	2022.0	2027.1
1.5°	2085.4	2082.6	2073.6	2060.7	2040.4	2027.1	2016.9	2010.2	2007.1	2009.0	2017.3
2°	2097.5	2094.0	2082.2	2065.4	2040.0	2021.6	2007.1	1997.3	1993.4	1996.5	2006.7
2.5°	2109.3	2104.6	2090.9	2069.3	2039.2	2015.7	1996.5	1984.0	1978.9	1982.8	1996.1
3°	2120.6	2115.1	2098.3	2073.2	2038.0	2009.8	1986.3	1970.7	1964.0	1969.1	1985.2
3.5°	2131.6	2125.3	2106.5	2077.2	2036.8	2003.6	1975.4	1956.6	1949.5	1955.4	1974.6
4°	2142.1	2135.9	2113.6	2080.3	2035.3	1996.9	1964.4	1942.5	1934.3	1941.3	1963.2
4.5°	2152.7	2144.9	2121.0	2083.4	2033.7	1989.9	1953.1	1928.4	1919.0	1927.2	1951.9
5°	2162.9	2154.7	2127.7	2086.2	2031.7	1983.2	1941.7	1913.9	1903.7	1912.3	1940.1
5.5°	2172.3	2163.3	2134.3	2088.9	2029.4	1975.4	1930.0	1899.4	1888.1	1897.9	1928.4
6°	2181.7	2171.9	2140.6	2091.3	2027.1	1967.9	1918.2	1884.2	1871.6	1883.0	1916.3
6.5°	2190.3	2180.1	2146.5	2093.2	2024.3	1960.5	1905.7	1869.3	1856.0	1867.7	1904.1
7°	2198.9	2187.9	2151.9	2095.2	2021.2	1952.3	1893.6	1854.0	1839.5	1852.8	1891.6
7.5°	2207.1	2195.4	2157.4	2096.3	2018.0	1944.1	1881.0	1838.4	1823.1	1837.6	1879.1
8°	2214.6	2202.8	2162.1	2097.5	2014.5	1935.8	1868.1	1823.1	1806.3	1821.5	1866.2
8.5°	2222.0	2209.9	2166.8	2098.7	2011.0	1927.2	1854.8	1806.7	1789.8	1805.9	1853.2
9°	2229.1	2216.1	2171.1	2099.1	2007.1	1918.2	1841.9	1791.0	1772.6	1790.2	1840.3
9.5°	2235.7	2222.4	2175.0	2099.9	2002.8	1909.2	1828.6	1774.9	1755.4	1773.8	1826.6
10°	2242.0	2228.3	2178.6	2099.9	1998.5	1899.8	1815.3	1758.9	1738.5	1757.7	1813.7
10.5°	2247.8	2233.7	2182.1	2099.5	1993.8	1890.4	1801.6	1742.4	1721.7	1741.7	1800.0
11°	2253.3	2238.4	2185.2	2099.1	1989.1	1880.6	1787.5	1725.6	1703.7	1725.2	1786.3
11.5°	2258.0	2243.1	2187.6	2098.3	1983.6	1870.5	1773.4	1709.2	1686.1	1708.8	1772.2
12°	2262.7	2247.1	2189.9	2097.1	1978.5	1860.7	1759.3	1692.3	1668.9	1692.3	1758.5
12.5°	2267.0	2251.0	2191.9	2095.9	1972.6	1850.1	1745.2	1675.5	1651.2	1675.1	1744.4
13°	2270.5	2254.1	2193.4	2094.4	1967.2	1839.9	1730.7	1658.7	1633.2	1658.7	1729.9
13.5°	2274.1	2257.2	2194.6	2092.0	1960.9	1829.4	1716.2	1641.8	1615.6	1641.8	1715.8
14°	2276.8	2259.6	2195.4	2090.1	1954.6	1818.4	1701.3	1624.2	1597.6	1625.0	1701.3
14.5°	2279.2	2261.9	2195.4	2087.3	1948.0	1807.4	1686.5	1607.0	1580.0	1607.4	1686.5
15°	2281.1	2263.5	2195.8	2084.2	1940.9	1796.1	1671.6	1589.8	1561.6	1590.6	1671.6
15.5°	2282.7	2264.7	2195.4	2081.1	1934.3	1784.7	1656.3	1572.9	1544.0	1573.7	1656.7
16°	2283.9	2265.8	2194.6	2077.9	1926.8	1773.4	1641.4	1555.3	1526.0	1556.5	1641.8
16.5°	2284.6	2265.8	2193.8	2074.0	1919.4	1761.2	1625.8	1537.7	1508.0	1539.3	1627.0
17°	2285.0	2265.8	2192.3	2069.7	1911.6	1749.5	1610.9	1520.5	1489.9	1522.0	1611.7
17.5°	2284.6	2265.8	2190.3	2065.0	1903.7	1737.4	1595.3	1502.9	1471.5	1504.4	1596.4
18°	2284.2	2265.1	2188.3	2060.7	1895.5	1725.2	1579.6	1485.3	1453.9	1487.6	1581.2
18.5°	2283.1	2263.9	2185.2	2055.2	1886.9	1712.7	1563.9	1468.0	1435.9	1470.0	1565.5
19°	2281.9	2262.3	2182.5	2050.1	1877.9	1700.2	1548.3	1450.4	1417.9	1452.4	1550.2
19.5°	2279.9	2260.4	2178.9	2044.3	1869.3	1687.6	1533.0	1432.8	1399.9	1435.5	1535.0
20°	2277.6	2258.0	2175.4	2038.0	1860.3	1674.7	1517.4	1415.6	1381.9	1418.3	1519.3
20.5°	2274.9	2254.9	2171.1	2031.7	1850.5	1661.8	1500.9	1398.3	1364.7	1400.7	1503.7
21°	2271.7	2251.8	2166.8	2025.1	1840.7	1648.5	1484.9	1380.7	1346.3	1383.5	1487.6



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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°	2259.6	2239.6	2151.1	2002.8	1810.6	1608.2	1437.5	1329.1	1293.4	1331.8	1440.2
23°	2254.5	2234.5	2144.9	1994.9	1800.0	1594.5	1421.0	1311.4	1275.4	1314.6	1424.2
23.5°	2249.4	2229.1	2138.6	1986.7	1789.0	1580.8	1405.0	1294.6	1258.2	1297.3	1408.1
24°	2243.1	2223.2	2131.6	1977.7	1778.1	1566.7	1388.9	1277.0	1240.6	1280.1	1392.5
24.5°	2236.9	2216.9	2124.5	1969.1	1766.7	1553.0	1372.5	1260.2	1223.0	1262.9	1376.4
25°	2229.8	2210.3	2116.7	1959.7	1755.0	1538.9	1356.1	1242.5	1205.7	1246.1	1360.4
25.5°	2222.4	2202.8	2108.9	1950.3	1743.6	1524.4	1340.4	1226.1	1188.9	1229.2	1344.3
26°	2215.0	2195.4	2100.6	1940.1	1731.5	1509.9	1324.4	1208.9	1172.1	1212.4	1327.9
26.5°	2206.3	2187.2	2091.6	1930.4	1719.4	1495.4	1307.9	1192.0	1154.8	1195.2	1311.8
27°	2197.7	2178.6	2082.2	1919.4	1707.2	1480.9	1291.5	1175.2	1138.0	1178.7	1295.8
27.5°	2188.3	2169.5	2072.9	1908.8	1694.3	1466.1	1275.4	1159.2	1121.2	1161.9	1279.7
28°	2178.6	2159.8	2062.7	1897.5	1681.4	1451.2	1259.4	1142.3	1104.7	1145.5	1263.7
28.5°	2168.0	2150.0	2052.1	1886.1	1668.5	1436.3	1243.3	1125.9	1088.3	1129.0	1247.6
29°	2156.6	2139.4	2041.1	1874.0	1655.2	1421.4	1226.9	1109.0	1072.2	1112.6	1231.2
29.5°	2144.5	2128.1	2030.2	1862.2	1641.8	1406.2	1210.8	1093.4	1055.8	1095.7	1215.1
30°	2131.6	2116.3	2018.4	1850.1	1627.7	1391.3	1194.4	1076.9	1039.8	1079.7	1198.7
30.5°	2118.3	2103.8	2006.3	1836.8	1614.0	1376.0	1178.7	1060.9	1023.7	1063.2	1182.6
31°	2104.6	2090.5	1993.8	1823.9	1600.3	1360.4	1162.7	1045.2	1008.0	1047.2	1166.6
31.5°	2089.7	2076.4	1980.9	1810.6	1585.5	1345.1	1146.6	1029.2	992.0	1031.1	1150.1
32°	2074.8	2061.5	1967.2	1796.9	1571.4	1329.8	1130.6	1013.5	976.7	1015.1	1134.5
32.5°	2058.4	2045.8	1952.7	1782.8	1556.9	1314.2	1114.5	997.9	961.1	999.4	1118.4
33°	2040.4	2029.8	1937.8	1768.7	1542.0	1298.1	1098.5	982.6	945.8	983.8	1101.6
33.5°	2021.6	2013.0	1922.1	1754.2	1527.5	1282.5	1082.8	967.3	930.5	967.7	1085.6
34°	2003.6	1995.7	1905.7	1738.9	1512.3	1266.8	1066.8	951.7	915.3	952.8	1069.9
34.5°	1983.6	1976.9	1888.5	1723.3	1497.0	1251.1	1051.1	936.4	899.6	937.2	1053.8
35°	1963.6	1957.8	1870.9	1707.6	1481.7	1235.5	1035.4	921.1	884.7	921.5	1037.8
35.5°	1942.1	1938.2	1852.5	1691.2	1466.5	1219.4	1019.8	906.3	869.9	906.7	1021.7
36°	1919.0	1917.0	1833.7	1674.3	1450.8	1203.8	1004.5	891.4	855.4	891.4	1006.1
36.5°	1895.5	1895.5	1814.1	1656.3	1434.4	1187.7	988.9	876.1	840.1	876.1	990.0
37°	1870.5	1872.8	1793.7	1638.3	1418.7	1172.1	973.2	861.2	825.6	860.9	974.4
37.5°	1844.6	1848.9	1772.6	1619.1	1402.3	1155.6	957.9	846.8	810.7	846.0	958.3
38°	1817.6	1824.7	1750.7	1600.0	1385.4	1139.6	942.3	831.9	796.3	831.1	942.7
38.5°	1788.6	1799.2	1728.0	1580.0	1368.6	1123.9	927.0	817.4	782.2	816.2	927.0
39°	1759.3	1772.6	1704.5	1559.2	1351.8	1107.5	912.1	802.5	767.7	801.3	911.7
39.5°	1727.6	1743.6	1680.2	1537.7	1334.1	1091.8	896.9	788.4	753.2	786.5	896.5
40°	1693.9	1713.5	1654.4	1515.4	1316.1	1075.4	881.2	773.9	738.7	772.0	880.8
40.5°	1659.1	1682.6	1627.0	1492.7	1297.3	1059.3	866.3	759.5	724.6	757.5	865.5
41°	1623.8	1650.5	1598.8	1468.8	1278.6	1043.7	851.1	745.0	710.5	742.6	850.7
41.5°	1588.2	1616.0	1569.8	1444.5	1259.0	1027.6	836.2	730.5	696.0	728.5	835.0
42°	1551.0	1581.9	1540.4	1419.5	1239.4	1011.6	820.9	716.4	682.3	714.0	819.4
42.5°	1515.0	1547.5	1510.3	1394.4	1218.7	995.1	806.4	702.3	668.2	700.0	803.3
43°	1479.0	1512.7	1479.4	1368.6	1197.1	978.3	791.6	688.2	654.2	685.9	786.9
43.5°	1442.6	1477.8	1447.7	1342.4	1176.0	961.1	777.1	674.1	640.5	671.8	770.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1335.3	1372.9	1354.1	1262.1	1110.2	907.4	733.6	632.2	599.0	629.9	720.3
45.5°	1301.3	1338.4	1321.6	1234.7	1087.1	888.6	719.1	618.5	585.3	616.2	703.1
46°	1266.4	1303.6	1289.5	1207.7	1064.8	870.2	704.3	604.4	571.6	602.1	685.9
46.5°	1230.4	1268.4	1257.4	1179.5	1041.7	851.5	689.4	590.7	557.5	588.0	669.4
47°	1197.1	1233.9	1225.3	1151.7	1018.6	832.7	673.7	577.0	544.1	573.5	652.2
47.5°	1161.9	1199.9	1192.4	1123.1	995.5	813.5	658.5	563.3	530.4	559.4	634.6
48°	1129.0	1166.2	1160.3	1095.3	972.8	794.7	643.2	550.0	517.1	544.9	617.4
48.5°	1096.9	1133.3	1128.2	1066.8	949.3	775.9	627.5	535.9	503.4	530.4	600.5
49°	1063.6	1100.4	1096.1	1039.0	926.2	756.7	611.9	522.2	489.7	516.0	583.3
49.5°	1032.3	1067.5	1065.2	1010.4	902.7	737.5	596.2	508.9	476.4	501.5	566.1
50°	1000.2	1035.1	1032.7	981.8	880.4	718.4	580.9	495.6	463.5	487.4	548.8
50.5°	968.1	1003.3	1002.2	953.2	856.5	698.8	564.9	481.5	450.2	472.5	532.4
51°	938.8	972.0	971.6	925.8	832.7	679.2	548.8	467.4	436.5	457.6	515.2
51.5°	908.6	941.5	941.5	898.0	809.6	660.8	533.2	454.1	423.6	443.5	499.1
52°	878.5	911.4	911.7	870.6	786.5	641.6	517.5	440.8	410.7	429.1	482.3
52.5°	851.1	881.6	882.4	842.5	762.6	622.4	501.5	426.7	397.3	415.0	465.9
53°	821.7	853.0	853.4	815.8	739.1	603.3	486.2	413.0	384.4	400.5	449.4
53.5°	794.7	824.4	825.2	789.2	716.0	584.5	470.6	399.7	371.1	386.4	433.4
54°	766.9	796.3	797.4	763.0	693.3	565.7	454.5	386.0	358.6	372.3	417.3
54.5°	740.3	769.2	770.8	736.8	670.2	547.3	439.2	372.3	345.7	358.6	401.7
55°	716.0	742.6	743.4	710.9	647.5	529.3	424.0	359.4	335.1	345.7	386.0
55.5°	690.2	716.8	717.6	685.9	624.8	510.5	408.7	346.1	324.9	332.4	371.1
56°	666.7	691.3	692.1	661.2	602.5	492.1	393.4	333.9	314.4	319.4	355.8
56.5°	642.0	666.7	667.1	636.5	580.9	474.5	378.6	321.8	303.8	306.5	341.8
57°	619.3	642.4	642.8	612.7	559.4	456.5	364.1	309.7	296.3	293.6	327.7
57.5°	597.0	618.9	618.5	589.6	538.3	438.5	349.6	297.5	287.3	281.1	313.2
58°	574.7	596.2	595.4	566.9	516.7	421.6	335.9	290.5	277.9	269.3	299.1
58.5°	553.5	573.9	573.1	544.9	496.4	404.4	321.8	282.3	268.6	259.2	285.0
59°	532.0	552.0	551.2	523.0	476.4	387.6	308.1	273.2	259.2	251.3	271.7
59.5°	511.7	531.6	530.1	501.9	456.5	371.1	294.4	263.9	250.2	243.1	258.8
60°	490.5	510.9	508.9	481.5	437.3	355.1	280.7	254.8	241.1	234.9	246.2
60.5°	470.6	490.5	488.6	461.2	418.1	339.4	267.8	245.5	232.1	226.3	234.5
61°	451.8	470.6	469.0	442.0	400.1	324.1	255.2	236.5	223.5	217.7	223.1
61.5°	433.0	451.8	449.8	422.8	382.5	308.5	243.9	227.4	215.3	209.4	211.8
62°	414.6	433.0	431.8	404.4	365.2	293.2	232.5	218.8	207.1	201.2	201.6
62.5°	396.6	415.0	413.8	386.8	349.2	279.5	221.6	210.6	198.9	193.4	191.4
63°	379.7	397.3	396.2	369.6	333.1	265.4	211.0	202.4	190.6	185.6	181.6
63.5°	362.9	380.5	379.3	352.7	317.1	252.1	202.4	194.6	182.8	178.1	172.6
64°	346.1	363.7	362.9	335.9	301.0	239.2	195.0	186.7	175.0	170.7	164.0
64.5°	330.0	348.4	347.2	320.2	285.4	226.7	187.5	179.3	167.2	163.2	155.8
65°	315.1	332.8	331.6	305.0	270.9	214.9	180.1	171.9	159.3	155.8	148.4
65.5°	300.7	317.9	316.7	290.5	257.2	203.2	173.0	164.8	152.3	148.8	141.3
66°	285.8	303.0	302.2	276.4	243.5	191.8	165.6	157.4	145.2	141.7	135.1



TEST NUMBER: P776396

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	246.2	262.7	261.9	236.8	206.3	162.1	145.6	137.4	124.9	121.7	118.2
68°	233.7	250.2	249.4	224.3	195.0	153.1	139.4	131.1	118.6	115.5	113.1
68.5°	222.0	238.0	236.8	212.6	183.6	144.5	133.1	124.9	112.7	109.6	108.0
69°	210.2	226.7	225.1	201.2	173.4	136.6	127.2	119.0	106.9	103.7	103.0
69.5°	198.9	215.3	214.1	190.3	163.2	128.8	121.7	113.1	101.4	98.3	98.3
70°	188.3	204.0	202.8	179.7	153.8	121.7	116.3	107.7	95.9	92.8	93.2
70.5°	178.1	193.8	192.6	169.9	144.5	115.1	111.2	102.6	91.2	87.7	88.5
71°	167.9	183.6	182.4	160.1	136.2	108.8	106.1	97.5	86.1	83.0	84.2
71.5°	158.2	174.2	172.6	151.1	128.0	102.6	101.0	92.4	81.4	78.3	79.9
72°	149.2	164.4	163.2	142.5	120.2	97.1	95.9	87.7	77.1	74.0	75.2
72.5°	139.4	155.4	154.2	135.1	112.7	91.6	91.6	83.4	72.8	70.1	71.2
73°	131.5	146.4	145.2	127.2	105.7	86.5	86.9	79.1	68.9	65.8	67.3
73.5°	123.7	140.1	137.8	119.8	99.0	81.8	82.6	74.8	65.0	62.2	63.4
74°	115.9	131.9	130.0	112.0	92.8	77.5	78.3	70.9	61.1	58.3	59.5
74.5°	108.0	124.1	122.5	104.1	86.9	73.2	74.4	66.9	57.5	54.8	56.0
75°	101.0	116.3	114.7	97.5	81.0	69.3	70.1	63.0	54.0	51.7	52.5
75.5°	93.6	108.4	107.3	91.2	75.6	65.8	66.6	59.5	50.9	48.2	49.3
76°	86.9	101.4	100.2	84.9	70.5	62.2	63.0	56.0	47.4	45.0	46.2
76.5°	80.6	94.7	93.6	79.1	65.8	58.7	59.5	52.8	44.2	41.9	43.1
77°	74.4	88.5	87.3	73.6	61.1	55.6	56.0	49.3	41.5	39.1	40.3
77.5°	68.5	82.6	81.0	68.5	56.8	52.5	52.8	46.2	38.8	36.4	37.6
78°	63.0	76.7	75.2	63.4	52.5	49.3	49.7	43.1	36.0	33.7	34.8
78.5°	57.5	71.2	69.7	58.3	48.5	46.6	46.6	39.9	33.3	31.3	32.5
79°	52.5	66.2	64.2	54.0	45.0	43.8	43.5	37.2	30.9	29.0	30.1
79.5°	47.4	61.1	59.1	49.7	41.5	41.1	40.7	34.4	28.6	26.2	27.8
80°	42.7	56.4	54.4	45.4	38.8	38.4	38.0	32.1	25.8	23.9	25.1
80.5°	38.4	51.7	50.1	41.9	35.6	36.0	35.2	29.4	23.5	21.5	22.7
81°	34.1	47.4	45.8	38.4	33.3	33.7	32.9	26.6	21.5	19.6	20.7
81.5°	29.8	43.1	41.5	34.8	30.5	31.3	30.1	23.9	19.2	17.6	18.8
82°	25.8	39.1	37.6	31.7	28.2	28.6	27.8	21.5	17.2	15.7	16.8
82.5°	22.3	35.2	34.1	29.0	25.4	26.2	25.1	19.6	15.3	13.7	14.9
83°	18.8	31.7	30.5	26.2	23.1	23.9	22.7	17.2	13.3	11.7	13.3
83.5°	15.3	28.2	27.4	23.5	21.1	21.9	20.4	15.3	11.7	10.2	11.7
84°	12.5	24.7	24.3	20.7	18.8	20.0	18.4	13.3	10.2	8.2	10.2
84.5°	9.8	21.5	21.5	18.4	17.2	18.0	16.4	11.4	8.2	7.0	8.6
85°	7.0	18.4	18.8	16.4	15.3	16.1	14.5	9.8	6.7	5.5	7.4
85.5°	4.3	15.3	16.1	14.1	13.3	14.1	12.5	8.2	5.5	4.7	5.9
86°	3.1	13.3	14.1	12.5	11.7	12.5	11.0	7.0	4.3	3.9	4.7
86.5°	2.3	11.0	12.1	10.6	10.2	10.6	9.4	5.9	3.5	3.1	3.5
87°	2.0	8.6	9.8	8.6	8.6	9.0	7.8	4.7	2.7	2.3	2.3
87.5°	1.2	6.7	7.8	7.0	7.0	7.4	6.3	3.9	2.0	1.6	1.2
88°	0.8	4.7	5.9	5.5	5.9	5.9	5.1	2.7	1.2	0.8	0.4
88.5°	0.4	2.7	3.9	3.9	4.7	4.3	3.5	2.0	0.8	0.4	0.0



TEST NUMBER: P776396

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-3000K

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: P776396

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2045.4	2045.4	2045.4	2045.4	2045.4	2045.4
0.5°	2040.8	2039.6	2047.0	2053.7	2059.2	2060.7
1°	2035.3	2039.2	2051.3	2062.7	2070.9	2072.9
1.5°	2029.4	2038.0	2055.2	2070.5	2081.9	2085.4
2°	2023.1	2036.8	2059.2	2078.7	2092.8	2097.5
2.5°	2016.9	2035.3	2062.3	2086.6	2103.0	2109.3
3°	2010.6	2033.7	2065.4	2093.6	2113.6	2120.6
3.5°	2003.6	2031.7	2068.5	2100.6	2123.0	2131.6
4°	1996.5	2029.4	2070.9	2107.3	2132.7	2142.1
4.5°	1989.1	2026.7	2073.2	2113.6	2141.8	2152.7
5°	1981.6	2023.9	2075.2	2119.8	2150.8	2162.9
5.5°	1974.2	2021.2	2077.2	2125.3	2159.4	2172.3
6°	1966.0	2018.0	2078.7	2130.8	2167.2	2181.7
6.5°	1958.2	2014.5	2079.5	2135.9	2175.0	2190.3
7°	1949.9	2010.6	2080.3	2140.6	2182.1	2198.9
7.5°	1941.3	2006.7	2081.1	2144.9	2189.1	2207.1
8°	1932.7	2002.4	2081.1	2148.8	2195.8	2214.6
8.5°	1923.7	1997.7	2081.1	2152.3	2202.0	2222.0
9°	1914.7	1993.4	2080.7	2155.5	2207.9	2229.1
9.5°	1905.3	1987.9	2079.9	2158.6	2213.4	2235.7
10°	1895.9	1982.8	2078.7	2160.9	2218.5	2242.0
10.5°	1886.5	1977.7	2077.6	2162.9	2223.2	2247.8
11°	1876.3	1971.9	2075.6	2164.8	2227.5	2253.3
11.5°	1866.5	1965.6	2073.6	2166.0	2231.0	2258.0
12°	1856.0	1959.3	2071.3	2167.2	2234.5	2262.7
12.5°	1845.4	1952.7	2068.5	2167.6	2237.7	2267.0
13°	1834.8	1946.0	2065.8	2168.0	2240.0	2270.5
13.5°	1824.3	1939.4	2062.3	2167.6	2242.0	2274.1
14°	1813.3	1931.9	2058.8	2167.2	2243.9	2276.8
14.5°	1802.0	1924.5	2054.8	2166.0	2245.1	2279.2
15°	1790.6	1916.7	2050.1	2164.8	2245.9	2281.1
15.5°	1779.2	1908.4	2045.4	2162.9	2246.3	2282.7
16°	1767.5	1900.6	2040.8	2160.9	2246.3	2283.9
16.5°	1755.8	1892.0	2035.7	2158.2	2245.9	2284.6
17°	1743.6	1883.4	2029.8	2155.5	2245.1	2285.0
17.5°	1731.5	1874.4	2023.9	2151.9	2243.9	2284.6
18°	1719.0	1865.0	2017.7	2148.4	2242.4	2284.2
18.5°	1706.4	1855.6	2011.0	2144.1	2240.0	2283.1
19°	1693.9	1845.8	2004.0	2139.8	2237.7	2281.9
19.5°	1681.0	1836.0	1996.9	2134.7	2234.5	2279.9
20°	1668.1	1825.4	1989.1	2129.6	2231.4	2277.6
20.5°	1655.2	1815.3	1981.2	2123.7	2227.5	2274.9
21°	1641.4	1804.7	1973.0	2117.9	2223.2	2271.7

TEST NUMBER: P776396

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1601.1	1770.6	1946.4	2097.5	2207.9	2259.6
23°	1587.0	1759.3	1936.6	2089.7	2202.0	2254.5
23.5°	1573.7	1747.5	1926.8	2081.9	2195.8	2249.4
24°	1559.2	1735.4	1916.7	2073.6	2188.7	2243.1
24.5°	1544.8	1723.3	1906.1	2064.6	2181.3	2236.9
25°	1530.7	1710.0	1895.1	2055.2	2173.5	2229.8
25.5°	1516.6	1697.4	1884.2	2045.4	2164.8	2222.4
26°	1502.1	1684.5	1872.8	2035.7	2156.6	2215.0
26.5°	1486.8	1672.0	1861.5	2025.1	2147.2	2206.3
27°	1472.3	1657.9	1849.3	2014.1	2137.8	2197.7
27.5°	1457.5	1643.8	1836.8	2003.2	2127.7	2188.3
28°	1442.6	1630.9	1823.9	1991.4	2116.7	2178.6
28.5°	1427.3	1616.8	1811.0	1979.3	2105.3	2168.0
29°	1412.0	1602.7	1797.6	1966.8	2093.6	2156.6
29.5°	1397.2	1588.6	1783.6	1953.5	2080.7	2144.5
30°	1381.5	1573.7	1770.2	1939.8	2067.4	2131.6
30.5°	1365.9	1559.2	1755.4	1925.3	2052.9	2118.3
31°	1350.6	1544.0	1741.3	1910.4	2038.0	2104.6
31.5°	1334.9	1529.9	1726.0	1894.3	2022.0	2089.7
32°	1319.3	1513.4	1710.3	1877.9	2005.9	2074.8
32.5°	1303.6	1498.2	1693.9	1861.1	1989.1	2058.4
33°	1287.6	1482.1	1676.7	1843.1	1971.9	2040.4
33.5°	1271.9	1466.9	1659.8	1824.7	1953.5	2021.6
34°	1255.8	1450.4	1641.1	1804.7	1933.1	2003.6
34.5°	1240.2	1433.6	1621.9	1784.3	1912.0	1983.6
35°	1223.7	1416.7	1602.3	1763.6	1890.4	1963.6
35.5°	1208.1	1398.7	1581.9	1742.1	1868.5	1942.1
36°	1192.0	1379.9	1561.2	1719.4	1845.4	1919.0
36.5°	1175.6	1361.5	1539.7	1695.9	1821.1	1895.5
37°	1159.2	1342.0	1516.6	1670.8	1795.3	1870.5
37.5°	1142.3	1320.8	1493.5	1645.0	1768.3	1844.6
38°	1125.9	1300.1	1468.0	1618.4	1739.7	1817.6
38.5°	1109.0	1278.9	1443.4	1590.2	1710.3	1788.6
39°	1091.8	1257.0	1416.4	1560.4	1679.4	1759.3
39.5°	1073.8	1233.9	1390.5	1529.1	1646.5	1727.6
40°	1055.4	1211.2	1362.3	1497.0	1612.1	1693.9
40.5°	1035.8	1187.7	1334.9	1466.1	1577.6	1659.1
41°	1016.7	1164.2	1307.1	1433.2	1542.4	1623.8
41.5°	996.7	1141.1	1278.9	1400.7	1506.8	1588.2
42°	976.3	1116.5	1251.1	1368.2	1470.4	1551.0
42.5°	956.8	1092.2	1222.6	1335.7	1435.5	1515.0
43°	936.4	1067.9	1193.2	1302.4	1400.7	1479.0
43.5°	916.0	1044.1	1164.6	1269.5	1365.1	1442.6



TEST NUMBER: P776396

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	854.6	969.3	1077.3	1172.1	1261.3	1335.3
45.5°	834.2	945.4	1048.4	1140.4	1227.7	1301.3
46°	813.5	920.4	1019.4	1107.9	1193.6	1266.4
46.5°	793.1	896.5	991.2	1077.3	1161.1	1230.4
47°	772.0	871.8	963.0	1046.4	1127.8	1197.1
47.5°	750.8	846.8	933.7	1016.3	1095.0	1161.9
48°	730.5	822.5	905.9	986.1	1062.9	1129.0
48.5°	710.1	798.2	878.9	957.5	1031.9	1096.9
49°	689.0	775.1	852.2	928.2	1000.6	1063.6
49.5°	669.0	750.5	825.2	899.6	970.9	1032.3
50°	648.7	726.6	798.2	871.8	939.9	1000.2
50.5°	628.3	702.7	773.6	844.0	911.4	968.1
51°	608.4	679.6	747.7	817.4	882.4	938.8
51.5°	589.6	656.1	723.4	790.8	853.8	908.6
52°	568.8	634.2	699.6	765.3	826.4	878.5
52.5°	549.2	612.3	675.7	740.3	799.4	851.1
53°	530.1	589.6	652.2	715.2	772.8	821.7
53.5°	511.3	568.0	629.5	691.3	747.3	794.7
54°	492.1	547.7	607.6	667.1	721.5	766.9
54.5°	474.1	526.9	585.6	644.8	697.2	740.3
55°	455.7	506.6	564.5	621.7	673.3	716.0
55.5°	437.3	487.4	544.1	600.1	649.8	690.2
56°	419.7	468.2	523.4	578.6	627.1	666.7
56.5°	402.4	449.4	503.8	557.8	604.0	642.0
57°	385.6	431.4	484.3	537.1	582.5	619.3
57.5°	369.2	413.4	465.9	517.1	561.4	597.0
58°	353.1	396.2	447.5	498.3	541.0	574.7
58.5°	338.2	378.9	429.1	479.2	520.7	553.5
59°	323.0	362.9	412.6	460.8	501.1	532.0
59.5°	307.7	346.8	394.6	442.8	482.7	511.7
60°	292.8	331.2	378.9	425.5	463.9	490.5
60.5°	279.1	316.3	362.9	408.3	446.7	470.6
61°	265.8	301.4	347.2	391.5	428.3	451.8
61.5°	252.5	287.3	332.4	376.2	411.4	433.0
62°	239.6	273.6	317.9	360.5	395.0	414.6
62.5°	227.4	260.3	303.4	345.3	378.6	396.6
63°	215.7	247.0	289.7	330.4	362.5	379.7
63.5°	204.3	234.5	276.0	316.7	346.8	362.9
64°	193.4	222.7	263.1	302.6	331.6	346.1
64.5°	183.2	211.0	250.9	289.3	317.5	330.0
65°	173.4	200.0	238.8	276.0	303.0	315.1
65.5°	163.6	189.5	227.1	263.9	289.3	300.7
66°	154.6	178.9	215.3	251.7	275.6	285.8



TEST NUMBER: P776396

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	130.0	150.3	184.4	217.7	238.4	246.2
68°	122.5	142.1	174.2	206.7	227.1	233.7
68.5°	115.1	134.3	164.8	196.5	215.7	222.0
69°	108.8	126.8	155.8	186.3	205.1	210.2
69.5°	102.2	119.4	147.2	176.9	194.2	198.9
70°	96.3	111.6	139.4	167.6	184.4	188.3
70.5°	90.4	104.1	131.5	158.5	174.6	178.1
71°	85.3	97.9	124.1	149.9	165.6	167.9
71.5°	79.9	91.6	116.7	141.7	156.2	158.2
72°	75.2	85.3	108.8	134.3	147.6	149.2
72.5°	70.5	79.9	102.2	126.8	139.0	139.4
73°	66.2	74.4	95.5	119.4	131.5	131.5
73.5°	61.9	69.7	89.6	112.0	124.1	123.7
74°	57.9	64.6	83.8	104.5	116.3	115.9
74.5°	54.0	59.9	78.3	97.9	108.8	108.0
75°	50.5	55.6	72.4	91.6	102.2	101.0
75.5°	47.4	51.3	67.3	85.3	95.5	93.6
76°	44.2	47.4	62.2	79.5	88.9	86.9
76.5°	41.5	43.5	57.5	73.6	82.6	80.6
77°	38.8	40.3	53.2	68.1	77.1	74.4
77.5°	36.0	37.2	48.9	63.0	71.6	68.5
78°	33.7	34.1	45.0	58.3	66.2	63.0
78.5°	31.3	31.3	41.1	53.6	61.1	57.5
79°	29.4	28.6	37.6	48.9	56.0	52.5
79.5°	27.0	25.8	34.4	44.6	51.3	47.4
80°	24.7	23.5	30.9	40.7	47.0	42.7
80.5°	22.7	21.5	28.2	36.8	42.7	38.4
81°	20.7	19.2	25.1	33.3	38.4	34.1
81.5°	18.8	17.2	22.7	29.8	34.4	29.8
82°	16.8	15.3	20.0	26.2	30.9	25.8
82.5°	15.3	13.7	17.6	23.5	27.4	22.3
83°	13.3	12.1	15.3	20.4	24.3	18.8
83.5°	11.7	10.2	13.3	17.6	21.1	15.3
84°	10.2	8.6	11.4	15.3	18.4	12.5
84.5°	8.6	7.0	9.4	12.9	15.7	9.8
85°	7.0	5.9	7.4	11.0	13.7	7.0
85.5°	5.5	4.3	5.9	8.6	11.4	4.3
86°	4.3	3.1	4.3	6.3	9.0	3.1
86.5°	3.1	2.0	2.7	4.3	7.0	2.3
87°	1.6	0.8	1.2	2.7	4.7	2.0
87.5°	0.8	0.4	0.4	1.2	2.7	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: P776396

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-3000K

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°	2268.2	2248.2	2162.1	2018.0	1830.9	1635.2	1469.2	1363.5	1328.7	1365.9	1471.9
22°	2264.3	2243.9	2156.6	2010.6	1821.1	1621.9	1453.2	1345.9	1310.7	1349.0	1455.9



44°	1407.0	1443.0	1416.4	1315.7	1154.1	943.5	762.6	660.0	626.4	657.7	753.6
44.5°	1371.7	1407.7	1385.8	1289.1	1132.1	925.8	748.1	645.9	612.3	643.6	737.1



66.5°	271.7	289.3	288.5	262.3	230.6	181.6	158.5	150.3	137.8	134.7	129.2
67°	258.8	276.0	274.4	249.4	218.4	171.5	151.9	144.1	131.1	128.4	123.7



89°	0.0	1.2	2.3	2.3	3.1	3.1	2.3	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°	1628.5	1792.9	1964.4	2111.2	2218.9	2268.2
22°	1614.4	1782.8	1955.4	2104.6	2213.4	2264.3



44°	895.3	1019.4	1135.7	1236.7	1329.8	1407.0
44.5°	874.9	994.3	1106.7	1204.2	1295.8	1371.7



66.5°	145.6	169.1	204.7	240.0	263.1	271.7
67°	137.4	159.3	194.2	228.2	250.5	258.8

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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)