

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: P776496

Luminaire Tested: HCDJBL3040CSD-HCD8TRH-HCD8TRLWW-4000lm-3000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776496
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B022)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD8TRH-HCD8TRLWW-4000lm-3000K
Description: 8 INCH ROUND MEDIUM LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

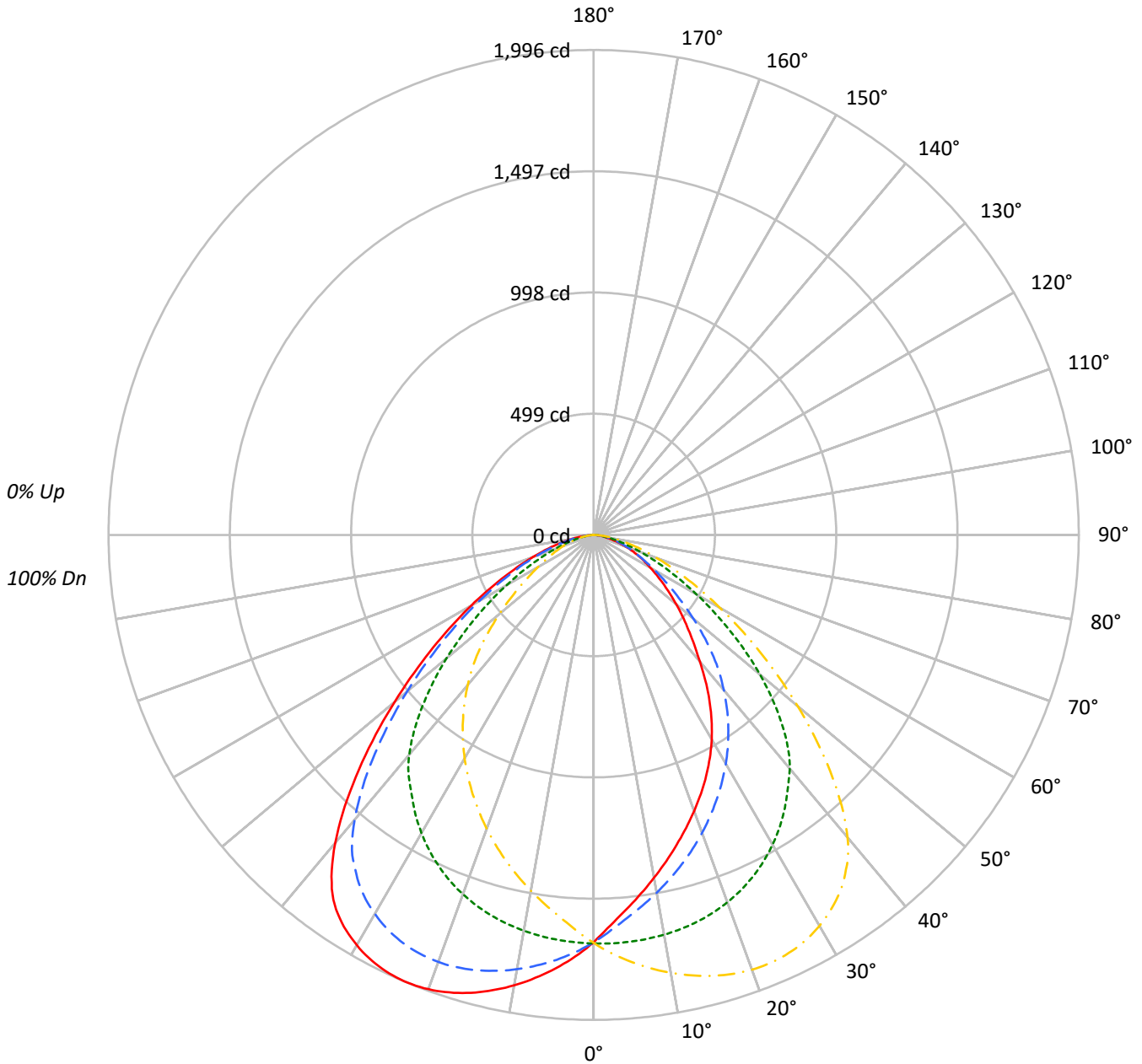
Lumens per Lamp: N/A
Luminaire Lumens: 3923.5 lumens
Efficiency: N/A
Efficacy: 101.9 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.27 / 1.32
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	93	91	89	87																			
2	102	94	89	83	99	93	87	83	89	85	81	86	82	79	83	80	77	75																			
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	71	67	65																			
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			
6	74	62	53	47	72	61	53	47	59	52	47	57	51	46	56	50	46	44																			
7	69	56	48	42	67	55	48	42	54	47	42	53	46	42	51	46	41	39																			
8	64	51	43	38	63	51	43	38	50	43	38	48	42	37	47	41	37	35																			
9	60	47	40	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32																			
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	51230	51230	51230	51230
5°	47405	51521	54870	51281
10°	44409	51791	58344	51279
15°	41725	52086	61666	51267
20°	39277	52279	64645	51122
25°	36883	52251	67066	50708
30°	34238	51893	68723	49947
35°	30942	51098	69241	48646
40°	27093	50037	65923	47072
45°	23790	47192	58975	43012
50°	21036	42391	50779	37537
55°	18571	36291	42811	31431
60°	16450	29840	35531	25346
65°	14679	23933	29055	19859
70°	12515	18558	23664	15104
75°	10027	14084	19074	11088
80°	7789	10391	15015	7507
85°	5219	7391	9598	4239

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 157.5°
 Vertical Angle: 45°
 Luminance: 59989 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.1	4.1
10°-20°	461.1	11.8
20°-30°	705.7	18.0
30°-40°	835.7	21.3
40°-50°	767.4	19.6
50°-60°	536.6	13.7
60°-70°	300.7	7.7
70°-80°	129.8	3.3
80°-90°	27.4	0.7
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°	1325.9	33.8
0°-40°	2161.6	55.1
0°-60°	3465.6	88.3
0°-90°	3923.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3923.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1678	1678	1678	1678	1678	
5°	1547	1681	1790	1673	1547	144
15°	1320	1648	1951	1622	1320	371
25°	1095	1551	1991	1505	1095	503
35°	830	1371	1858	1305	830	516
45°	551	1093	1366	996	551	427
55°	349	682	804	590	349	314
65°	203	331	402	275	203	201
75°	85	119	162	94	85	92
85°	15	21	27	12	15	19
90°	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°	1678.0	1678.0	1678.0	1678.0	1678.0	1678.0	1678.0	1678.0	1678.0	1678.0	1678.0
0.5°	1662.0	1663.1	1667.4	1673.3	1682.3	1685.8	1689.4	1689.4	1688.6	1687.0	1685.8
1°	1648.6	1651.0	1658.0	1668.2	1682.3	1690.9	1698.4	1701.1	1701.5	1699.2	1694.5
1.5°	1634.9	1638.1	1648.6	1663.1	1682.7	1696.4	1707.4	1712.9	1713.6	1710.1	1702.7
2°	1620.8	1625.5	1638.9	1658.0	1682.7	1701.1	1716.0	1723.8	1725.4	1721.1	1711.3
2.5°	1607.5	1613.0	1629.1	1652.6	1682.7	1705.8	1724.6	1734.4	1736.8	1731.7	1719.1
3°	1594.6	1600.9	1619.7	1647.5	1682.7	1710.9	1732.4	1745.0	1748.1	1741.8	1727.0
3.5°	1582.1	1589.5	1609.9	1642.0	1682.3	1715.2	1740.7	1755.2	1759.1	1751.6	1734.0
4°	1570.3	1578.2	1600.9	1636.1	1681.9	1719.5	1748.5	1765.3	1769.6	1761.4	1741.5
4.5°	1558.2	1567.2	1591.5	1630.6	1681.5	1723.8	1756.3	1775.5	1780.2	1770.8	1748.5
5°	1546.8	1556.2	1582.5	1624.8	1681.1	1728.1	1763.8	1784.9	1790.4	1780.2	1755.5
5.5°	1535.1	1545.3	1573.8	1618.9	1680.8	1731.7	1771.2	1794.7	1800.6	1789.6	1762.2
6°	1523.7	1534.7	1564.8	1613.4	1680.0	1735.6	1778.3	1803.7	1810.4	1798.6	1768.9
6.5°	1512.4	1524.1	1556.2	1607.5	1679.2	1739.5	1785.7	1813.1	1820.2	1806.8	1775.1
7°	1500.6	1513.5	1547.6	1601.6	1678.4	1743.0	1792.4	1821.7	1829.6	1815.5	1781.4
7.5°	1489.3	1503.0	1539.0	1595.8	1677.2	1746.5	1799.4	1830.3	1838.6	1824.1	1787.3
8°	1477.9	1492.0	1530.4	1589.9	1676.1	1749.7	1805.7	1839.0	1848.0	1832.3	1793.1
8.5°	1466.5	1481.4	1521.8	1584.0	1674.9	1752.8	1812.3	1847.6	1857.0	1840.1	1799.0
9°	1455.2	1470.9	1512.8	1577.8	1673.7	1755.9	1818.2	1855.4	1865.6	1847.6	1804.5
9.5°	1443.8	1460.3	1504.1	1571.9	1672.1	1758.7	1824.5	1863.2	1873.8	1855.4	1809.6
10°	1432.5	1449.3	1495.1	1566.0	1670.6	1761.8	1830.0	1871.5	1882.0	1862.5	1814.7
10.5°	1421.5	1438.7	1486.1	1560.1	1669.0	1764.2	1835.8	1878.5	1890.3	1869.9	1819.8
11°	1409.8	1428.2	1477.1	1553.9	1667.0	1766.5	1841.7	1886.0	1898.1	1876.6	1824.5
11.5°	1398.4	1417.6	1468.1	1547.6	1665.1	1768.9	1846.8	1893.0	1905.5	1883.2	1829.2
12°	1387.1	1406.6	1458.7	1541.3	1663.1	1771.2	1851.9	1900.0	1912.6	1889.9	1833.5
12.5°	1376.1	1396.1	1449.7	1534.7	1661.2	1773.2	1857.0	1907.1	1919.6	1895.7	1837.4
13°	1364.7	1385.5	1440.7	1528.0	1658.8	1775.1	1861.7	1913.4	1926.7	1902.0	1841.3
13.5°	1353.8	1374.9	1431.3	1521.8	1656.1	1776.7	1866.4	1919.2	1932.9	1907.5	1845.2
14°	1342.4	1363.9	1421.9	1514.7	1653.3	1777.9	1870.7	1925.5	1939.2	1913.0	1848.7
14.5°	1331.1	1353.4	1412.5	1508.1	1650.6	1779.4	1875.0	1931.0	1945.1	1918.1	1851.9
15°	1320.1	1342.4	1403.1	1500.6	1647.9	1780.6	1878.9	1936.5	1951.0	1923.2	1855.0
15.5°	1308.7	1331.4	1393.7	1494.0	1644.7	1781.4	1882.4	1941.6	1956.4	1927.5	1857.8
16°	1297.8	1320.9	1383.9	1486.5	1641.6	1782.2	1886.0	1946.7	1961.5	1931.8	1860.1
16.5°	1286.8	1310.3	1374.1	1479.5	1638.1	1782.6	1889.1	1951.0	1966.2	1936.1	1862.5
17°	1275.4	1299.3	1364.7	1471.6	1634.5	1783.0	1892.2	1955.3	1970.5	1939.6	1864.4
17.5°	1264.5	1288.8	1354.5	1463.8	1630.6	1783.0	1895.0	1959.2	1974.5	1943.1	1866.0
18°	1253.1	1277.8	1344.8	1456.0	1626.7	1783.0	1897.3	1962.7	1978.4	1946.3	1867.5
18.5°	1242.2	1267.2	1334.6	1448.1	1622.4	1782.6	1899.3	1966.2	1981.5	1948.6	1868.7
19°	1231.2	1256.3	1324.8	1439.9	1618.1	1782.2	1901.2	1969.4	1984.6	1951.3	1869.5
19.5°	1219.8	1245.7	1314.6	1432.1	1613.8	1781.4	1902.8	1971.7	1987.4	1953.3	1869.9
20°	1208.9	1234.3	1304.4	1423.5	1609.1	1780.2	1904.0	1974.1	1989.7	1954.9	1870.3
20.5°	1197.5	1223.4	1294.2	1415.2	1604.4	1778.7	1905.1	1976.0	1991.7	1956.0	1869.9
21°	1186.6	1212.4	1283.7	1406.6	1598.9	1777.1	1905.5	1977.6	1993.3	1957.2	1869.5



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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°	1152.5	1179.5	1252.7	1380.0	1582.9	1771.2	1905.9	1979.9	1995.6	1957.6	1866.4
23°	1141.1	1168.5	1241.8	1370.6	1577.0	1768.5	1905.1	1979.9	1995.2	1956.8	1864.4
23.5°	1129.8	1157.6	1231.6	1361.6	1570.7	1765.7	1904.0	1979.5	1994.8	1956.0	1862.5
24°	1118.4	1146.2	1220.6	1352.2	1564.1	1762.6	1902.8	1978.8	1994.0	1954.5	1859.7
24.5°	1106.7	1134.5	1210.0	1342.4	1557.8	1759.1	1901.2	1977.6	1992.5	1952.5	1857.0
25°	1094.9	1123.5	1199.1	1333.0	1551.1	1755.2	1898.9	1976.0	1990.9	1950.6	1853.8
25.5°	1083.2	1111.8	1188.5	1323.2	1544.5	1751.2	1896.5	1974.1	1988.9	1947.8	1850.3
26°	1071.4	1100.4	1177.5	1313.4	1537.0	1746.9	1893.8	1971.7	1986.2	1944.7	1846.0
26.5°	1059.7	1088.7	1166.6	1303.2	1529.6	1741.8	1890.7	1969.0	1983.1	1941.2	1841.7
27°	1047.1	1077.3	1155.2	1293.1	1522.2	1737.1	1887.1	1965.8	1979.9	1937.6	1837.0
27.5°	1034.6	1065.2	1144.3	1282.9	1514.3	1731.7	1883.2	1962.3	1976.0	1933.3	1831.9
28°	1022.5	1053.4	1132.9	1272.3	1506.1	1726.2	1878.9	1958.0	1971.7	1928.2	1826.4
28.5°	1009.9	1041.3	1121.5	1261.7	1497.9	1720.3	1874.2	1953.7	1967.0	1923.5	1820.9
29°	997.0	1029.1	1110.2	1251.2	1489.7	1714.0	1869.1	1948.6	1961.5	1917.7	1814.7
29.5°	984.1	1016.6	1098.8	1240.6	1480.6	1707.4	1863.6	1943.5	1955.7	1911.8	1808.0
30°	971.2	1004.1	1087.1	1230.0	1472.0	1700.3	1857.8	1937.6	1949.4	1905.1	1801.0
30.5°	957.9	991.1	1075.3	1218.7	1463.0	1693.3	1851.5	1931.0	1942.7	1898.5	1793.5
31°	944.2	978.6	1063.6	1207.7	1453.6	1685.8	1844.8	1924.3	1935.7	1891.0	1785.7
31.5°	930.4	965.3	1051.4	1196.7	1443.8	1677.6	1837.8	1917.3	1928.2	1883.2	1777.5
32°	916.3	952.4	1039.7	1185.0	1434.4	1669.8	1830.3	1909.4	1920.0	1874.6	1769.3
32.5°	902.2	939.1	1027.6	1174.0	1424.6	1661.2	1822.5	1901.6	1911.8	1866.0	1759.9
33°	888.5	925.4	1015.4	1162.3	1414.5	1652.6	1814.3	1893.0	1902.4	1857.0	1750.1
33.5°	874.1	911.6	1003.3	1150.9	1403.9	1643.2	1805.3	1883.6	1892.6	1846.4	1739.9
34°	860.0	897.9	990.8	1138.8	1393.3	1633.4	1795.9	1873.8	1882.4	1835.8	1728.5
34.5°	844.7	883.8	978.2	1127.0	1382.4	1623.6	1786.5	1863.6	1871.1	1823.3	1716.4
35°	830.2	869.4	965.7	1114.9	1371.0	1613.4	1775.9	1851.9	1857.8	1810.4	1703.5
35.5°	814.9	855.3	952.8	1102.7	1359.6	1602.0	1764.6	1839.4	1844.1	1795.5	1689.8
36°	800.4	840.8	939.8	1090.6	1347.9	1590.3	1752.0	1825.3	1828.4	1779.8	1677.2
36.5°	784.8	826.3	927.3	1078.1	1335.8	1578.5	1738.7	1809.6	1811.5	1763.8	1664.3
37°	769.9	811.4	914.0	1065.9	1324.0	1566.0	1725.0	1793.5	1791.2	1746.5	1650.2
37.5°	754.2	796.5	900.7	1053.0	1311.9	1554.7	1712.1	1775.9	1772.4	1726.6	1633.8
38°	739.3	781.2	887.4	1041.3	1300.9	1543.3	1697.6	1756.3	1750.1	1705.4	1615.4
38.5°	723.3	766.4	874.1	1028.7	1289.5	1532.7	1681.5	1735.6	1728.1	1683.5	1595.4
39°	708.8	751.1	860.7	1016.6	1278.2	1520.2	1663.5	1714.4	1704.2	1660.4	1575.0
39.5°	693.9	735.8	847.0	1004.5	1267.2	1506.5	1645.1	1691.7	1680.0	1636.5	1553.1
40°	679.8	720.5	833.3	992.3	1255.5	1491.2	1624.8	1667.4	1654.1	1611.4	1530.4
40.5°	664.9	705.3	819.2	979.8	1242.6	1473.6	1603.2	1643.2	1627.5	1585.6	1506.5
41°	651.6	690.4	805.1	967.3	1228.5	1456.0	1580.9	1616.9	1600.5	1559.0	1482.6
41.5°	637.9	675.5	791.4	954.3	1213.6	1437.2	1557.8	1590.7	1572.3	1531.9	1457.5
42°	625.4	660.6	777.3	941.0	1197.9	1417.2	1533.9	1563.3	1544.1	1504.5	1432.1
42.5°	612.5	646.5	763.2	927.3	1181.9	1397.6	1509.2	1535.1	1515.5	1475.9	1406.6
43°	599.5	632.8	748.7	912.8	1164.6	1376.9	1483.4	1506.9	1486.1	1448.1	1380.8
43.5°	587.0	619.1	734.3	897.9	1147.4	1355.3	1457.1	1477.9	1456.4	1418.4	1353.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	551.0	580.4	689.2	851.7	1093.0	1287.6	1376.9	1389.4	1365.9	1331.1	1272.7
45.5°	540.0	567.8	674.3	836.5	1073.8	1264.5	1348.7	1360.0	1336.1	1301.7	1245.3
46°	528.3	555.3	658.7	820.0	1055.0	1240.2	1321.3	1329.9	1305.6	1272.3	1217.9
46.5°	516.9	543.2	643.0	803.2	1035.8	1215.9	1293.5	1300.1	1275.4	1242.6	1190.5
47°	505.9	531.4	627.3	786.7	1015.8	1191.3	1264.9	1269.6	1244.9	1213.2	1163.1
47.5°	495.0	519.3	611.3	769.5	995.5	1166.6	1236.3	1239.8	1215.5	1184.2	1135.3
48°	484.4	507.9	595.2	752.7	975.1	1141.5	1208.5	1210.8	1185.8	1155.6	1108.2
48.5°	473.8	496.6	580.0	735.8	954.7	1116.5	1179.9	1181.1	1156.8	1126.6	1081.2
49°	463.7	485.2	564.3	718.2	934.4	1091.4	1151.7	1152.1	1126.2	1098.4	1054.6
49.5°	453.1	474.2	549.4	701.0	913.2	1065.9	1123.9	1122.3	1097.7	1069.5	1028.0
50°	442.9	463.3	534.1	683.7	892.5	1040.9	1096.1	1093.4	1069.1	1041.7	1000.9
50.5°	432.7	452.7	519.3	666.1	870.9	1015.8	1067.5	1064.8	1040.9	1013.9	974.7
51°	422.9	441.7	505.2	648.5	849.8	990.0	1039.7	1036.2	1012.7	986.8	948.5
51.5°	413.5	431.5	491.1	630.5	829.0	965.7	1013.1	1008.8	984.9	959.8	923.4
52°	403.7	421.0	477.0	613.2	807.5	940.6	986.1	981.0	958.2	933.2	897.6
52.5°	394.3	410.8	463.7	595.6	786.3	915.2	958.6	953.2	930.4	906.9	872.1
53°	384.9	400.6	449.9	578.0	765.2	890.5	932.0	926.5	905.0	881.5	847.4
53.5°	375.9	390.8	436.6	560.8	744.0	866.2	905.8	900.3	878.0	855.6	823.1
54°	366.5	381.0	423.3	543.5	722.9	841.6	880.3	874.4	853.3	830.6	798.9
54.5°	357.9	371.6	410.8	526.3	702.1	817.7	854.5	848.6	827.1	805.9	775.4
55°	348.9	362.2	398.3	509.5	681.8	794.2	829.0	823.5	804.3	782.8	752.3
55.5°	340.3	352.8	386.1	492.6	661.4	769.9	805.1	798.9	778.9	758.5	729.6
56°	332.1	343.8	374.0	475.8	641.1	746.8	780.1	774.6	756.2	735.0	706.8
56.5°	323.5	334.8	362.6	459.7	621.5	724.9	756.2	750.7	731.5	712.7	684.9
57°	315.2	325.4	350.9	444.1	601.1	701.7	732.7	727.6	710.4	690.4	663.0
57.5°	307.4	317.2	339.9	428.0	582.3	679.4	709.2	704.5	686.9	668.5	641.8
58°	299.2	308.6	329.3	412.7	562.7	657.5	686.9	682.2	666.1	646.9	621.5
58.5°	291.7	300.4	318.8	397.9	543.9	636.4	664.9	660.6	643.8	626.6	600.7
59°	284.3	292.1	308.6	383.0	525.1	615.2	643.0	639.1	623.8	606.2	581.1
59.5°	276.9	284.3	298.8	368.5	506.7	594.8	621.1	617.9	602.7	585.8	561.2
60°	269.4	276.5	289.0	354.4	488.7	574.5	599.9	597.6	581.9	566.6	542.4
60.5°	262.4	268.6	279.6	341.1	471.1	554.5	580.0	577.6	562.7	547.9	523.6
61°	255.3	261.2	270.2	327.4	454.3	534.9	560.4	558.0	542.0	529.1	505.2
61.5°	248.3	254.1	262.0	314.5	437.0	516.1	540.8	538.8	523.6	510.6	487.5
62°	241.6	247.1	253.4	302.3	420.6	497.7	521.6	520.4	505.2	492.6	470.3
62.5°	235.0	240.1	245.1	290.2	404.9	479.7	502.8	501.6	486.0	475.0	453.5
63°	228.7	233.0	237.3	278.4	389.3	461.3	484.8	483.6	469.1	457.8	436.6
63.5°	222.4	226.3	229.5	266.7	373.2	443.7	466.8	466.0	451.1	440.9	421.0
64°	216.2	220.1	222.0	255.7	359.5	426.8	449.9	449.2	433.9	424.5	404.9
64.5°	209.9	213.4	215.0	245.1	345.4	410.4	433.1	432.3	418.2	408.8	389.6
65°	203.2	207.2	208.3	235.0	331.3	394.7	416.7	416.3	402.2	393.6	375.2
65.5°	197.0	200.9	201.3	225.2	317.2	379.1	400.6	400.6	386.1	378.3	360.7
66°	190.7	194.6	194.6	215.4	303.1	363.4	385.3	385.3	371.2	363.4	346.2



TEST NUMBER: P776496

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-HCD8TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	171.1	176.2	176.2	188.8	264.3	321.1	341.9	342.3	329.7	322.3	306.6
68°	165.3	170.3	170.3	180.1	252.2	307.4	328.6	328.9	316.0	309.0	293.3
68.5°	159.0	164.5	164.5	172.3	240.8	293.3	314.8	315.2	302.7	295.7	280.8
69°	152.7	158.6	158.6	164.1	229.1	280.4	301.5	301.9	289.0	283.5	268.6
69.5°	146.9	152.3	153.1	157.0	218.5	267.5	287.8	288.6	276.9	271.4	256.9
70°	140.2	146.5	147.6	150.0	207.9	254.9	275.3	276.5	265.1	259.6	245.1
70.5°	134.7	140.2	142.5	143.3	197.8	243.2	262.8	264.3	253.4	248.3	234.2
71°	129.2	134.7	137.5	137.1	187.6	232.2	251.4	253.0	242.0	236.9	223.6
71.5°	123.4	129.6	132.4	131.2	178.2	220.9	240.1	241.6	230.7	226.0	213.0
72°	117.9	124.1	127.3	124.9	168.8	209.9	228.7	230.3	220.1	215.4	202.8
72.5°	112.4	119.0	122.6	119.0	159.8	199.3	218.1	219.7	209.5	205.2	192.7
73°	106.9	113.6	117.5	112.8	151.2	189.1	207.2	209.5	199.3	195.0	183.3
73.5°	101.0	108.1	112.4	107.7	142.5	179.4	197.8	199.3	189.5	185.6	173.9
74°	95.6	103.0	107.7	102.6	134.7	170.0	187.6	189.9	180.1	176.2	164.9
74.5°	90.5	97.9	103.0	97.5	126.9	160.9	177.8	180.1	170.7	167.6	156.2
75°	85.0	92.4	98.3	92.8	119.4	151.9	168.4	171.1	161.7	158.6	147.6
75.5°	79.9	87.7	93.6	88.5	112.0	143.3	159.8	162.1	153.1	150.0	139.4
76°	74.8	82.6	89.3	84.2	105.3	135.1	150.8	153.5	144.5	141.4	131.2
76.5°	70.1	77.5	84.6	79.9	98.7	126.9	142.5	145.3	136.7	133.5	123.7
77°	65.4	72.8	80.3	76.0	92.4	119.4	134.3	137.1	128.4	125.7	116.3
77.5°	61.5	68.1	76.0	72.4	86.2	112.0	126.5	129.2	120.6	118.3	108.9
78°	58.0	63.8	71.7	68.5	80.3	104.6	118.7	121.8	113.2	110.8	101.8
78.5°	54.4	59.9	67.4	65.0	74.4	97.9	111.6	114.3	106.1	103.8	95.2
79°	50.9	56.0	63.4	61.1	69.3	91.2	104.2	107.3	98.7	96.7	88.9
79.5°	47.8	52.5	59.5	57.6	63.8	84.6	97.5	100.2	92.0	90.5	82.2
80°	44.3	49.3	55.6	54.0	59.1	78.7	90.9	93.2	85.4	83.8	76.0
80.5°	41.5	45.8	51.7	50.9	54.0	72.8	84.2	86.9	78.7	77.5	70.5
81°	38.4	42.7	48.2	47.4	50.1	67.0	78.3	80.7	72.4	71.3	64.6
81.5°	35.2	39.2	45.0	43.9	45.4	61.5	72.1	74.4	66.2	65.4	59.1
82°	32.1	36.0	41.5	40.7	41.5	56.4	66.6	68.5	60.3	59.9	53.6
82.5°	29.4	32.9	38.4	37.6	37.6	51.3	60.7	62.7	54.4	54.4	48.6
83°	26.2	29.8	35.2	34.5	34.1	46.6	55.6	57.2	49.0	49.0	43.9
83.5°	23.1	26.6	32.1	31.7	30.9	42.3	50.1	51.7	43.1	43.9	39.6
84°	20.4	23.9	29.0	28.6	27.8	38.4	45.4	46.6	38.0	39.2	35.2
84.5°	17.6	20.8	25.8	25.8	24.3	34.1	40.3	41.5	32.5	34.5	30.9
85°	14.9	18.0	22.7	22.7	21.1	30.2	36.4	36.8	27.4	29.8	26.6
85.5°	12.5	14.9	20.0	20.0	18.4	26.2	32.1	32.5	22.3	25.1	22.3
86°	10.2	12.5	16.8	17.2	15.7	22.3	27.8	28.2	16.8	20.4	18.0
86.5°	7.8	10.6	14.5	14.5	13.3	19.2	23.5	23.5	12.5	16.8	14.5
87°	5.9	8.2	11.7	12.1	11.0	15.7	19.2	19.2	10.2	13.3	11.0
87.5°	3.9	5.9	9.4	9.8	8.6	12.5	15.7	15.3	7.8	10.2	7.4
88°	2.3	3.9	6.7	7.0	6.7	9.8	11.7	11.7	5.5	6.7	4.3
88.5°	1.2	2.3	4.3	4.7	4.7	7.0	8.6	7.8	3.1	3.1	1.2



TEST NUMBER: P776496

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-HCD8TRLWW-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	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P776496

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-HCD8TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1678.0	1678.0	1678.0	1678.0	1678.0	1678.0
0.5°	1682.7	1681.5	1675.3	1669.8	1664.7	1662.0
1°	1687.0	1681.1	1669.8	1660.0	1651.8	1648.6
1.5°	1691.3	1680.4	1663.9	1649.8	1638.9	1634.9
2°	1695.6	1679.6	1658.0	1640.0	1625.9	1620.8
2.5°	1699.9	1678.8	1652.2	1629.5	1613.4	1607.5
3°	1703.9	1677.6	1646.3	1619.3	1601.3	1594.6
3.5°	1707.4	1676.8	1640.0	1609.1	1589.5	1582.1
4°	1711.3	1675.7	1633.8	1599.3	1577.4	1570.3
4.5°	1714.8	1674.5	1627.5	1589.5	1566.0	1558.2
5°	1718.0	1673.3	1620.8	1580.1	1555.0	1546.8
5.5°	1721.1	1671.7	1614.6	1570.3	1544.1	1535.1
6°	1724.2	1670.2	1607.9	1561.3	1533.1	1523.7
6.5°	1727.0	1668.6	1601.6	1551.9	1522.2	1512.4
7°	1729.7	1667.0	1595.0	1542.9	1511.2	1500.6
7.5°	1732.4	1665.1	1588.3	1533.5	1500.2	1489.3
8°	1734.8	1663.1	1582.1	1524.5	1489.3	1477.9
8.5°	1737.1	1661.2	1575.0	1515.1	1478.3	1466.5
9°	1739.5	1658.8	1568.4	1505.7	1466.9	1455.2
9.5°	1741.5	1656.5	1561.7	1496.3	1456.4	1443.8
10°	1743.4	1654.1	1555.0	1487.3	1445.4	1432.5
10.5°	1745.0	1651.4	1548.0	1477.5	1434.4	1421.5
11°	1746.5	1648.6	1541.3	1468.1	1423.5	1409.8
11.5°	1747.7	1645.9	1534.3	1458.3	1412.5	1398.4
12°	1748.9	1643.2	1527.2	1448.9	1401.5	1387.1
12.5°	1750.1	1640.0	1519.8	1439.1	1390.6	1376.1
13°	1750.8	1636.5	1512.8	1429.3	1380.0	1364.7
13.5°	1751.6	1633.4	1505.3	1419.6	1368.6	1353.8
14°	1752.0	1629.8	1497.9	1409.8	1357.7	1342.4
14.5°	1752.0	1625.9	1490.4	1399.6	1346.7	1331.1
15°	1752.0	1622.0	1483.0	1389.8	1335.8	1320.1
15.5°	1752.0	1618.1	1474.8	1379.6	1324.0	1308.7
16°	1751.6	1613.8	1466.9	1369.4	1313.4	1297.8
16.5°	1751.2	1609.5	1459.1	1359.2	1302.5	1286.8
17°	1750.5	1604.8	1450.9	1349.5	1291.5	1275.4
17.5°	1749.3	1600.1	1442.3	1338.9	1280.1	1264.5
18°	1748.1	1595.4	1434.0	1328.7	1269.2	1253.1
18.5°	1746.5	1589.9	1425.4	1317.7	1257.8	1242.2
19°	1744.6	1584.8	1416.8	1307.6	1246.9	1231.2
19.5°	1742.6	1579.3	1407.8	1297.0	1235.9	1219.8
20°	1740.3	1573.5	1399.2	1286.8	1224.9	1208.9
20.5°	1737.9	1568.0	1389.8	1275.8	1213.6	1197.5
21°	1735.2	1561.7	1380.8	1264.9	1202.6	1186.6

TEST NUMBER: P776496

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-HCD8TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1725.4	1542.1	1352.2	1232.4	1168.5	1152.5
23°	1721.1	1535.5	1342.4	1221.8	1157.2	1141.1
23.5°	1717.2	1528.0	1332.6	1210.4	1145.8	1129.8
24°	1712.5	1521.0	1322.8	1199.5	1134.5	1118.4
24.5°	1707.8	1513.1	1312.6	1188.1	1122.7	1106.7
25°	1702.7	1505.3	1302.5	1177.2	1111.4	1094.9
25.5°	1697.6	1497.5	1291.9	1165.8	1100.0	1083.2
26°	1691.7	1489.7	1281.7	1154.4	1088.3	1071.4
26.5°	1685.8	1481.4	1271.1	1143.1	1076.1	1059.7
27°	1679.6	1472.4	1260.6	1131.7	1064.4	1047.1
27.5°	1672.9	1463.8	1249.6	1120.0	1052.2	1034.6
28°	1665.9	1454.8	1238.6	1108.2	1039.7	1022.5
28.5°	1658.8	1445.8	1227.7	1096.5	1028.0	1009.9
29°	1651.4	1436.0	1216.7	1085.1	1015.4	997.0
29.5°	1643.6	1426.6	1205.7	1073.4	1003.3	984.1
30°	1635.3	1416.8	1194.4	1061.6	990.8	971.2
30.5°	1626.7	1406.6	1182.6	1049.1	977.8	957.9
31°	1618.1	1396.5	1171.3	1037.4	964.9	944.2
31.5°	1608.7	1386.3	1159.9	1025.2	951.6	930.4
32°	1599.7	1374.9	1147.8	1013.1	938.3	916.3
32.5°	1589.5	1364.3	1136.0	1000.9	925.0	902.2
33°	1579.3	1353.0	1123.9	988.4	911.6	888.5
33.5°	1568.4	1341.6	1112.1	975.9	897.6	874.1
34°	1556.6	1329.5	1099.6	963.3	883.8	860.0
34.5°	1544.9	1317.3	1087.5	950.8	870.1	844.7
35°	1532.3	1305.2	1074.9	937.9	855.6	830.2
35.5°	1520.6	1293.9	1062.8	925.0	841.6	814.9
36°	1509.6	1282.9	1050.7	912.4	827.1	800.4
36.5°	1499.0	1271.9	1038.5	899.1	812.2	784.8
37°	1488.1	1261.0	1026.4	885.8	797.7	769.9
37.5°	1475.9	1250.0	1014.2	872.9	782.8	754.2
38°	1462.2	1238.2	1002.1	859.6	767.9	739.3
38.5°	1447.0	1225.7	990.0	846.6	752.7	723.3
39°	1429.3	1212.0	978.2	832.9	737.8	708.8
39.5°	1410.9	1197.1	965.3	820.0	722.5	693.9
40°	1391.4	1181.1	952.0	805.9	707.6	679.8
40.5°	1371.8	1164.2	938.3	792.6	692.0	664.9
41°	1351.4	1147.4	924.2	778.9	677.1	651.6
41.5°	1329.9	1129.4	910.1	765.2	662.2	637.9
42°	1308.3	1111.4	894.8	750.7	647.7	625.4
42.5°	1286.4	1093.0	879.5	736.6	634.0	612.5
43°	1264.5	1074.2	863.9	722.1	619.9	599.5
43.5°	1241.0	1055.0	848.2	707.2	606.6	587.0



TEST NUMBER: P776496

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-HCD8TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1170.9	996.2	798.5	661.8	567.4	551.0
45.5°	1146.6	975.9	781.6	646.5	555.3	540.0
46°	1122.3	956.3	764.8	630.5	542.4	528.3
46.5°	1099.2	935.1	747.6	615.2	530.6	516.9
47°	1074.2	914.8	730.3	599.1	518.9	505.9
47.5°	1049.5	893.6	712.7	583.1	507.1	495.0
48°	1025.2	873.7	695.5	567.0	495.4	484.4
48.5°	1001.7	852.5	677.9	551.4	484.0	473.8
49°	976.7	832.2	660.6	535.7	472.7	463.7
49.5°	952.4	811.4	643.0	520.8	461.7	453.1
50°	928.1	790.3	625.4	505.6	450.7	442.9
50.5°	905.0	769.9	607.8	491.1	439.8	432.7
51°	879.9	749.5	591.3	476.2	429.2	422.9
51.5°	857.6	729.2	573.7	462.5	418.6	413.5
52°	833.3	708.4	556.9	448.4	408.4	403.7
52.5°	810.6	687.7	539.6	434.7	398.3	394.3
53°	787.5	668.1	522.8	421.0	388.5	384.9
53.5°	765.2	648.5	505.9	408.4	378.3	375.9
54°	742.1	628.5	489.9	395.5	368.5	366.5
54.5°	720.5	608.9	473.8	382.6	359.1	357.9
55°	698.6	590.5	457.8	370.5	349.7	348.9
55.5°	677.5	571.3	441.7	358.7	340.7	340.3
56°	655.9	552.9	426.8	347.0	331.7	332.1
56.5°	635.2	534.1	411.6	335.2	322.7	323.5
57°	614.8	516.1	396.7	324.2	313.7	315.2
57.5°	595.2	498.1	381.8	313.7	305.1	307.4
58°	575.3	481.3	368.1	303.5	296.8	299.2
58.5°	556.5	464.4	354.4	293.3	288.6	291.7
59°	536.9	447.6	341.1	283.5	280.8	284.3
59.5°	518.5	430.8	327.8	274.1	272.9	276.9
60°	500.5	415.1	315.2	265.1	265.1	269.4
60.5°	482.8	399.0	302.7	256.1	257.7	262.4
61°	465.2	384.2	290.6	247.5	250.2	255.3
61.5°	448.8	369.7	279.2	239.3	243.2	248.3
62°	431.9	354.8	267.9	231.4	236.1	241.6
62.5°	415.9	340.7	256.5	223.6	229.5	235.0
63°	399.8	326.6	245.9	216.2	222.8	228.7
63.5°	384.6	313.3	235.7	208.7	215.8	222.4
64°	369.3	300.0	226.0	202.1	209.9	216.2
64.5°	354.8	287.4	216.2	195.4	203.6	209.9
65°	341.5	274.9	207.2	188.8	197.4	203.2
65.5°	327.8	263.2	198.2	182.5	191.5	197.0
66°	314.1	251.0	189.5	176.6	185.6	190.7



TEST NUMBER: P776496

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-HCD8TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	274.5	218.1	165.3	159.0	167.6	171.1
68°	262.4	207.5	157.8	153.5	161.3	165.3
68.5°	250.6	197.4	150.8	148.0	155.5	159.0
69°	239.3	188.0	143.7	142.9	149.6	152.7
69.5°	227.9	178.6	137.5	138.2	143.7	146.9
70°	216.9	169.2	131.2	133.1	138.2	140.2
70.5°	206.8	160.6	124.9	128.4	132.8	134.7
71°	196.6	151.9	118.7	123.4	127.3	129.2
71.5°	186.4	143.7	112.8	118.3	121.8	123.4
72°	177.0	136.3	107.3	113.6	116.3	117.9
72.5°	167.6	129.2	101.8	108.9	110.8	112.4
73°	158.6	121.8	96.3	104.2	105.3	106.9
73.5°	150.0	114.3	91.6	99.5	100.2	101.0
74°	141.8	106.9	86.9	95.2	95.2	95.6
74.5°	133.5	100.2	82.6	90.5	90.1	90.5
75°	125.7	94.0	78.3	86.2	85.0	85.0
75.5°	118.3	87.7	74.0	81.8	79.9	79.9
76°	110.8	81.8	70.1	77.5	75.2	74.8
76.5°	104.2	76.4	66.2	73.2	70.1	70.1
77°	97.1	70.9	62.7	68.9	65.8	65.4
77.5°	90.9	65.8	59.1	65.0	61.1	61.5
78°	84.6	60.7	56.0	60.7	57.2	58.0
78.5°	78.3	56.0	52.5	56.8	53.3	54.4
79°	72.8	51.3	49.0	53.3	49.7	50.9
79.5°	67.0	47.0	45.8	49.3	46.6	47.8
80°	61.5	42.7	42.7	45.4	43.1	44.3
80.5°	56.4	38.8	39.6	42.3	39.9	41.5
81°	51.7	35.2	36.4	38.8	36.8	38.4
81.5°	47.0	31.7	33.3	35.6	33.3	35.2
82°	42.3	28.2	30.5	32.5	30.2	32.1
82.5°	38.4	25.1	27.8	29.4	27.4	29.4
83°	34.9	22.3	25.1	26.6	24.3	26.2
83.5°	30.9	19.6	21.9	23.5	21.1	23.1
84°	27.0	16.8	19.6	20.8	18.4	20.4
84.5°	23.1	14.1	16.8	18.0	15.7	17.6
85°	19.2	12.1	14.1	15.3	13.3	14.9
85.5°	16.1	9.8	11.7	12.9	11.0	12.5
86°	12.9	7.8	9.4	10.6	8.6	10.2
86.5°	9.8	5.5	7.0	7.8	6.7	7.8
87°	7.0	3.9	4.7	5.5	4.7	5.9
87.5°	4.7	2.0	2.7	3.5	3.1	3.9
88°	2.0	0.8	0.8	1.6	2.0	2.3
88.5°	0.4	0.0	0.0	0.4	0.8	1.2



TEST NUMBER: P776496
CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-HCD8TRLWW-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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21.5°	1175.2	1201.4	1273.5	1397.6	1593.8	1775.5	1905.9	1978.8	1994.4	1957.6	1868.7
22°	1163.8	1190.9	1262.9	1389.0	1588.3	1773.6	1905.9	1979.5	1994.8	1957.6	1867.5



44°	574.9	606.2	719.4	883.1	1129.4	1333.0	1431.3	1448.9	1425.8	1389.8	1326.7
44.5°	563.1	592.9	704.5	867.8	1111.8	1310.7	1403.9	1419.2	1396.8	1360.4	1300.1



66.5°	184.1	188.8	188.4	206.0	289.0	348.9	370.1	370.1	356.7	349.3	333.3
67°	177.8	182.5	182.1	197.0	276.5	335.2	355.6	355.6	343.0	336.0	319.9



89°	0.4	1.2	2.0	2.7	3.1	4.3	5.1	3.9	0.8	0.4	0.0
89.5°	0.0	0.4	0.4	0.8	1.6	2.0	2.0	0.8	0.0	0.0	0.0

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21.5°	1732.1	1555.4	1371.4	1254.3	1191.3	1175.2
22°	1728.5	1548.8	1362.0	1243.3	1179.9	1163.8



44°	1218.3	1035.4	831.8	692.4	593.3	574.9
44.5°	1193.6	1015.8	814.9	677.5	580.4	563.1



66.5°	300.7	239.7	181.3	170.7	179.4	184.1
67°	287.0	228.3	173.1	164.9	173.5	177.8

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89°	0.0	0.0	0.0	0.0	0.4	0.4
89.5°	0.0	0.0	0.0	0.0	0.0	0.0

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(END OF REPORT)