

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: P776495

Luminaire Tested: HCDJBL3040CSD-HCD8TRH-HCD8TRLWW-4000lm-2700K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776495
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: HCDJBS3040CSD-HCD8TRH-HCD8TRLWW-4000lm-2700K
Description: 8 INCH ROUND MEDIUM LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT
Ballast/Driver: -

Summary

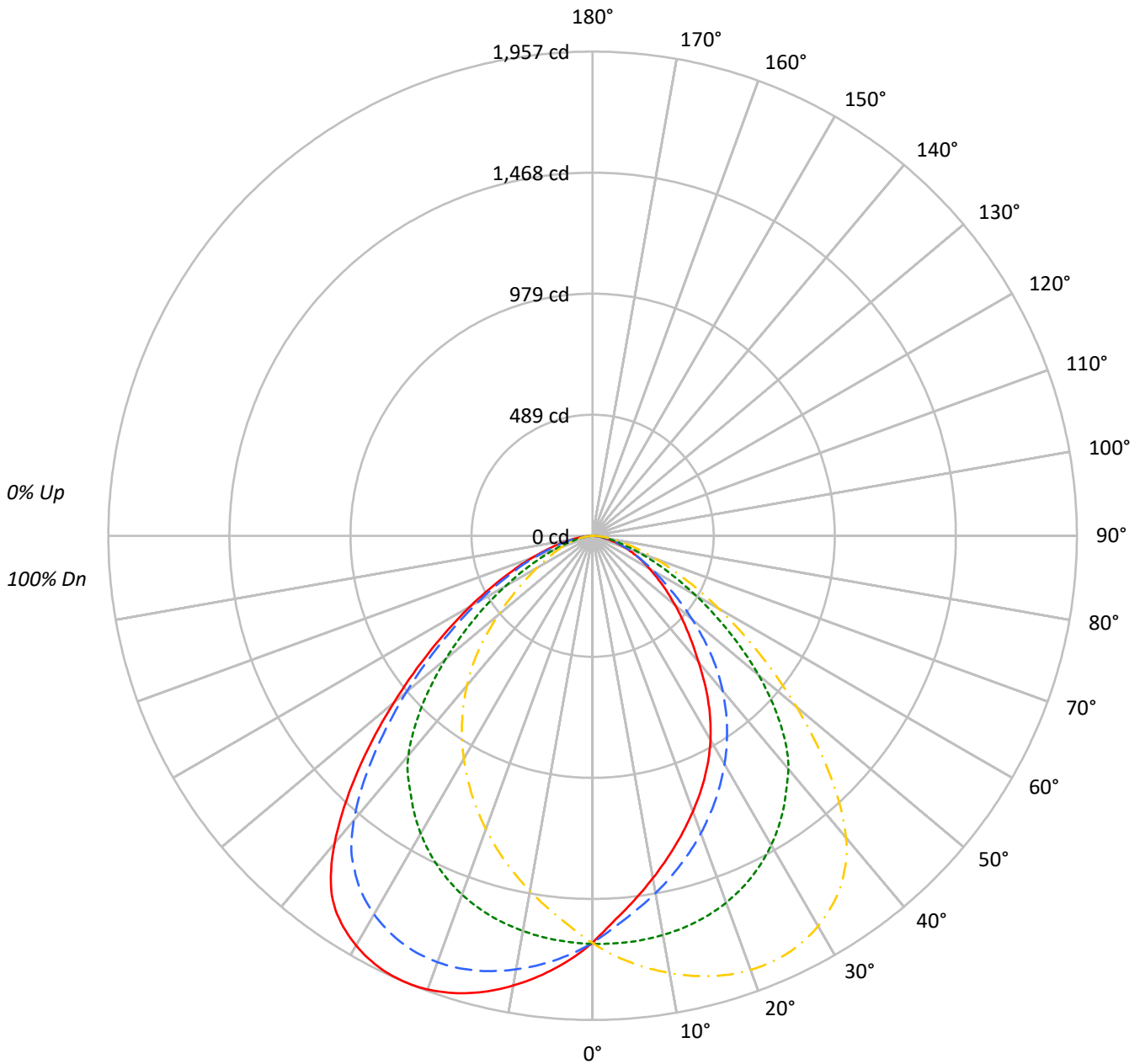
Lumens per Lamp: N/A
Luminaire Lumens: 3847.8 lumens
Efficiency: N/A
Efficacy: 99.9 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.27 / 1.32
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

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					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	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°	50241	50241	50241	50241
5°	46491	50528	53810	50292
10°	43551	50789	57219	50290
15°	40919	51077	60474	50278
20°	38516	51269	63397	50135
25°	36172	51244	65773	49728
30°	33575	50892	67397	48985
35°	30346	50110	67903	47706
40°	26571	49069	64652	46163
45°	23328	46281	57835	42183
50°	20628	41569	49796	36810
55°	18215	35588	41986	30824
60°	16132	29266	34847	24858
65°	14398	23471	28492	19476
70°	12274	18201	23209	14809
75°	9826	13813	18708	10876
80°	7630	10197	14716	7367
85°	5114	7251	9423	4169

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 157.5°
 Vertical Angle: 45°
 Luminance: 58832 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.0	4.1
10°-20°	452.2	11.8
20°-30°	692.1	18.0
30°-40°	819.5	21.3
40°-50°	752.6	19.6
50°-60°	526.3	13.7
60°-70°	294.9	7.7
70°-80°	127.3	3.3
80°-90°	26.9	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°	1300.3	33.8
0°-40°	2119.8	55.1
0°-60°	3398.7	88.3
0°-90°	3847.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3847.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1646	1646	1646	1646	1646	
5°	1517	1649	1756	1641	1517	141
15°	1295	1616	1913	1591	1295	364
25°	1074	1521	1952	1476	1074	493
35°	814	1344	1822	1280	814	506
45°	540	1072	1340	977	540	419
55°	342	669	789	579	342	308
65°	199	325	394	270	199	197
75°	83	117	159	92	83	90
85°	15	21	27	12	15	18
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°	1645.6	1645.6	1645.6	1645.6	1645.6	1645.6	1645.6	1645.6	1645.6	1645.6	1645.6
0.5°	1629.9	1631.0	1635.2	1641.0	1649.8	1653.3	1656.7	1656.7	1656.0	1654.4	1653.3
1°	1616.8	1619.1	1626.0	1636.0	1649.8	1658.3	1665.6	1668.3	1668.7	1666.3	1661.7
1.5°	1603.4	1606.4	1616.8	1631.0	1650.2	1663.7	1674.4	1679.8	1680.6	1677.1	1669.8
2°	1589.5	1594.1	1607.2	1626.0	1650.2	1668.3	1682.9	1690.5	1692.1	1687.9	1678.3
2.5°	1576.5	1581.9	1597.6	1620.6	1650.2	1672.9	1691.3	1700.9	1703.2	1698.2	1685.9
3°	1563.8	1570.0	1588.4	1615.7	1650.2	1677.9	1699.0	1711.3	1714.4	1708.2	1693.6
3.5°	1551.5	1558.8	1578.8	1610.3	1649.8	1682.1	1707.1	1721.3	1725.1	1717.8	1700.5
4°	1540.0	1547.7	1570.0	1604.5	1649.5	1686.3	1714.7	1731.3	1735.5	1727.4	1707.8
4.5°	1528.1	1536.9	1560.7	1599.1	1649.1	1690.5	1722.4	1741.2	1745.8	1736.6	1714.7
5°	1517.0	1526.2	1551.9	1593.4	1648.7	1694.8	1729.7	1750.5	1755.8	1745.8	1721.7
5.5°	1505.4	1515.4	1543.5	1587.6	1648.3	1698.2	1737.0	1760.1	1765.8	1755.1	1728.2
6°	1494.3	1505.1	1534.6	1582.2	1647.5	1702.1	1743.9	1768.9	1775.4	1763.9	1734.7
6.5°	1483.2	1494.7	1526.2	1576.5	1646.8	1705.9	1751.2	1778.1	1785.0	1772.0	1740.9
7°	1471.6	1484.3	1517.7	1570.7	1646.0	1709.4	1757.8	1786.6	1794.2	1780.4	1747.0
7.5°	1460.5	1473.9	1509.3	1565.0	1644.8	1712.8	1764.7	1795.0	1803.1	1788.9	1752.8
8°	1449.4	1463.2	1500.8	1559.2	1643.7	1715.9	1770.8	1803.5	1812.3	1796.9	1758.5
8.5°	1438.2	1452.8	1492.4	1553.4	1642.5	1719.0	1777.3	1811.9	1821.1	1804.6	1764.3
9°	1427.1	1442.5	1483.5	1547.3	1641.4	1722.0	1783.1	1819.6	1829.6	1811.9	1769.7
9.5°	1416.0	1432.1	1475.1	1541.5	1639.9	1724.7	1789.2	1827.3	1837.6	1819.6	1774.6
10°	1404.8	1421.3	1466.3	1535.8	1638.3	1727.8	1794.6	1835.3	1845.7	1826.5	1779.6
10.5°	1394.1	1411.0	1457.4	1530.0	1636.8	1730.1	1800.4	1842.2	1853.8	1833.8	1784.6
11°	1382.5	1400.6	1448.6	1523.9	1634.9	1732.4	1806.1	1849.5	1861.4	1840.3	1789.2
11.5°	1371.4	1390.2	1439.8	1517.7	1632.9	1734.7	1811.1	1856.4	1868.7	1846.8	1793.9
12°	1360.3	1379.5	1430.5	1511.6	1631.0	1737.0	1816.1	1863.4	1875.7	1853.4	1798.1
12.5°	1349.5	1369.1	1421.7	1505.1	1629.1	1738.9	1821.1	1870.3	1882.6	1859.1	1801.9
13°	1338.4	1358.7	1412.9	1498.5	1626.8	1740.9	1825.7	1876.4	1889.5	1865.3	1805.8
13.5°	1327.6	1348.4	1403.7	1492.4	1624.1	1742.4	1830.3	1882.2	1895.6	1870.7	1809.6
14°	1316.5	1337.6	1394.4	1485.5	1621.4	1743.5	1834.6	1888.3	1901.8	1876.0	1813.1
14.5°	1305.4	1327.2	1385.2	1478.9	1618.7	1745.1	1838.8	1893.7	1907.5	1881.0	1816.1
15°	1294.6	1316.5	1376.0	1471.6	1616.0	1746.2	1842.6	1899.1	1913.3	1886.0	1819.2
15.5°	1283.5	1305.7	1366.8	1465.1	1613.0	1747.0	1846.1	1904.1	1918.7	1890.2	1821.9
16°	1272.7	1295.4	1357.2	1457.8	1609.9	1747.8	1849.5	1909.1	1923.7	1894.5	1824.2
16.5°	1262.0	1285.0	1347.6	1450.9	1606.4	1748.1	1852.6	1913.3	1928.3	1898.7	1826.5
17°	1250.8	1274.2	1338.4	1443.2	1603.0	1748.5	1855.7	1917.5	1932.5	1902.1	1828.4
17.5°	1240.1	1263.9	1328.4	1435.5	1599.1	1748.5	1858.4	1921.4	1936.3	1905.6	1830.0
18°	1228.9	1253.1	1318.8	1427.9	1595.3	1748.5	1860.7	1924.8	1940.2	1908.7	1831.5
18.5°	1218.2	1242.8	1308.8	1420.2	1591.1	1748.1	1862.6	1928.3	1943.2	1911.0	1832.6
19°	1207.4	1232.0	1299.2	1412.1	1586.9	1747.8	1864.5	1931.3	1946.3	1913.7	1833.4
19.5°	1196.3	1221.6	1289.2	1404.4	1582.6	1747.0	1866.0	1933.6	1949.0	1915.6	1833.8
20°	1185.5	1210.5	1279.2	1396.0	1578.0	1745.8	1867.2	1935.9	1951.3	1917.1	1834.2
20.5°	1174.4	1199.7	1269.3	1387.9	1573.4	1744.3	1868.4	1937.9	1953.2	1918.3	1833.8
21°	1163.6	1189.0	1258.9	1379.5	1568.0	1742.8	1868.7	1939.4	1954.8	1919.4	1833.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	1130.2	1156.7	1228.5	1353.4	1552.3	1737.0	1869.1	1941.7	1957.1	1919.8	1830.3
23°	1119.1	1146.0	1217.8	1344.1	1546.5	1734.3	1868.4	1941.7	1956.7	1919.0	1828.4
23.5°	1108.0	1135.2	1207.8	1335.3	1540.4	1731.6	1867.2	1941.3	1956.3	1918.3	1826.5
24°	1096.8	1124.1	1197.1	1326.1	1533.9	1728.6	1866.0	1940.6	1955.5	1916.7	1823.8
24.5°	1085.3	1112.6	1186.7	1316.5	1527.7	1725.1	1864.5	1939.4	1954.0	1914.8	1821.1
25°	1073.8	1101.8	1175.9	1307.3	1521.2	1721.3	1862.2	1937.9	1952.5	1912.9	1818.0
25.5°	1062.3	1090.3	1165.6	1297.7	1514.7	1717.4	1859.9	1935.9	1950.5	1910.2	1814.6
26°	1050.7	1079.2	1154.8	1288.1	1507.4	1713.2	1857.2	1933.6	1947.9	1907.1	1810.4
26.5°	1039.2	1067.6	1144.1	1278.1	1500.1	1708.2	1854.1	1931.0	1944.8	1903.7	1806.1
27°	1026.9	1056.5	1132.9	1268.1	1492.8	1703.6	1850.7	1927.9	1941.7	1900.2	1801.5
27.5°	1014.6	1044.6	1122.2	1258.1	1485.1	1698.2	1846.8	1924.4	1937.9	1896.0	1796.5
28°	1002.7	1033.1	1111.0	1247.7	1477.0	1692.8	1842.6	1920.2	1933.6	1891.0	1791.2
28.5°	990.4	1021.2	1099.9	1237.4	1469.0	1687.1	1838.0	1916.0	1929.0	1886.4	1785.8
29°	977.8	1009.3	1088.8	1227.0	1460.9	1680.9	1833.0	1911.0	1923.7	1880.6	1779.6
29.5°	965.1	997.0	1077.6	1216.6	1452.1	1674.4	1827.6	1906.0	1917.9	1874.9	1773.1
30°	952.4	984.7	1066.1	1206.3	1443.6	1667.5	1821.9	1900.2	1911.8	1868.4	1766.2
30.5°	939.4	972.0	1054.6	1195.1	1434.8	1660.6	1815.7	1893.7	1905.2	1861.8	1758.9
31°	925.9	959.7	1043.1	1184.4	1425.6	1653.3	1809.2	1887.2	1898.3	1854.5	1751.2
31.5°	912.5	946.7	1031.1	1173.6	1416.0	1645.2	1802.3	1880.3	1891.0	1846.8	1743.2
32°	898.7	934.0	1019.6	1162.1	1406.7	1637.5	1795.0	1872.6	1882.9	1838.4	1735.1
32.5°	884.8	920.9	1007.7	1151.4	1397.1	1629.1	1787.3	1864.9	1874.9	1830.0	1725.9
33°	871.4	907.5	995.8	1139.8	1387.2	1620.6	1779.3	1856.4	1865.7	1821.1	1716.3
33.5°	857.2	894.0	983.9	1128.7	1376.8	1611.4	1770.4	1847.2	1856.1	1810.7	1706.3
34°	843.4	880.6	971.6	1116.8	1366.4	1601.8	1761.2	1837.6	1846.1	1800.4	1695.2
34.5°	828.4	866.8	959.3	1105.3	1355.7	1592.2	1752.0	1827.6	1834.9	1788.1	1683.2
35°	814.2	852.6	947.0	1093.4	1344.5	1582.2	1741.6	1816.1	1821.9	1775.4	1670.6
35.5°	799.2	838.7	934.4	1081.5	1333.4	1571.1	1730.5	1803.8	1808.4	1760.8	1657.1
36°	785.0	824.5	921.7	1069.6	1321.9	1559.6	1718.2	1790.0	1793.1	1745.5	1644.8
36.5°	769.6	810.3	909.4	1057.3	1310.0	1548.1	1705.1	1774.6	1776.6	1729.7	1632.2
37°	755.0	795.7	896.3	1045.4	1298.4	1535.8	1691.7	1758.9	1756.6	1712.8	1618.3
37.5°	739.7	781.1	883.3	1032.7	1286.5	1524.6	1679.0	1741.6	1738.2	1693.2	1602.2
38°	725.1	766.2	870.2	1021.2	1275.8	1513.5	1664.8	1722.4	1716.3	1672.5	1584.2
38.5°	709.3	751.6	857.2	1008.9	1264.6	1503.1	1649.1	1702.1	1694.8	1651.0	1564.6
39°	695.1	736.6	844.1	997.0	1253.5	1490.8	1631.4	1681.3	1671.3	1628.3	1544.6
39.5°	680.5	721.6	830.7	985.1	1242.8	1477.4	1613.4	1659.1	1647.5	1604.9	1523.1
40°	666.7	706.6	817.2	973.2	1231.2	1462.4	1593.4	1635.2	1622.2	1580.3	1500.8
40.5°	652.1	691.7	803.4	960.9	1218.6	1445.1	1572.3	1611.4	1596.1	1555.0	1477.4
41°	639.0	677.1	789.6	948.6	1204.7	1427.9	1550.4	1585.7	1569.6	1528.9	1454.0
41.5°	625.6	662.5	776.1	935.9	1190.1	1409.4	1527.7	1560.0	1541.9	1502.4	1429.4
42°	613.3	647.9	762.3	922.8	1174.8	1389.8	1504.3	1533.1	1514.3	1475.5	1404.4
42.5°	600.6	634.0	748.5	909.4	1159.0	1370.6	1480.1	1505.4	1486.2	1447.4	1379.5
43°	588.0	620.6	734.3	895.2	1142.1	1350.3	1454.7	1477.8	1457.4	1420.2	1354.1
43.5°	575.7	607.2	720.1	880.6	1125.2	1329.2	1429.0	1449.4	1428.2	1391.0	1327.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	540.3	569.1	675.9	835.3	1071.9	1262.7	1350.3	1362.6	1339.5	1305.4	1248.1
45.5°	529.6	556.9	661.3	820.3	1053.0	1240.1	1322.6	1333.8	1310.3	1276.5	1221.2
46°	518.1	544.6	646.0	804.2	1034.6	1216.3	1295.8	1304.2	1280.4	1247.7	1194.4
46.5°	506.9	532.7	630.6	787.7	1015.8	1192.4	1268.5	1275.0	1250.8	1218.6	1167.5
47°	496.2	521.1	615.2	771.5	996.2	1168.2	1240.4	1245.1	1220.9	1189.8	1140.6
47.5°	485.4	509.2	599.5	754.6	976.2	1144.1	1212.4	1215.9	1192.1	1161.3	1113.3
48°	475.1	498.1	583.7	738.1	956.3	1119.5	1185.1	1187.5	1162.9	1133.3	1086.8
48.5°	464.7	487.0	568.8	721.6	936.3	1094.9	1157.1	1158.3	1134.5	1104.9	1060.3
49°	454.7	475.8	553.4	704.3	916.3	1070.3	1129.5	1129.8	1104.5	1077.2	1034.2
49.5°	444.3	465.1	538.8	687.4	895.6	1045.4	1102.2	1100.7	1076.5	1048.8	1008.1
50°	434.3	454.3	523.8	670.5	875.2	1020.8	1074.9	1072.2	1048.4	1021.5	981.6
50.5°	424.4	444.0	509.2	653.3	854.1	996.2	1046.9	1044.2	1020.8	994.3	955.9
51°	414.8	433.2	495.4	636.0	833.4	970.9	1019.6	1016.2	993.1	967.8	930.1
51.5°	405.5	423.2	481.6	618.3	813.0	947.0	993.5	989.3	965.9	941.3	905.6
52°	395.9	412.8	467.8	601.4	791.9	922.5	967.0	962.0	939.7	915.2	880.2
52.5°	386.7	402.9	454.7	584.1	771.2	897.5	940.1	934.8	912.5	889.4	855.3
53°	377.5	392.9	441.3	566.8	750.4	873.3	914.0	908.6	887.5	864.5	831.1
53.5°	368.7	383.3	428.2	549.9	729.7	849.5	888.3	882.9	861.0	839.1	807.3
54°	359.5	373.7	415.1	533.0	708.9	825.3	863.3	857.6	836.8	814.5	783.4
54.5°	351.0	364.5	402.9	516.1	688.6	801.9	838.0	832.2	811.1	790.4	760.4
55°	342.2	355.2	390.6	499.6	668.6	778.8	813.0	807.6	788.8	767.7	737.7
55.5°	333.7	346.0	378.7	483.1	648.6	755.0	789.6	783.4	763.9	743.9	715.5
56°	325.7	337.2	366.8	466.6	628.7	732.4	765.0	759.6	741.6	720.8	693.2
56.5°	317.2	328.4	355.6	450.9	609.5	710.9	741.6	736.2	717.4	699.0	671.7
57°	309.2	319.1	344.1	435.5	589.5	688.2	718.5	713.5	696.6	677.1	650.2
57.5°	301.5	311.1	333.3	419.8	571.1	666.3	695.5	690.9	673.6	655.6	629.4
58°	293.4	302.6	323.0	404.8	551.9	644.8	673.6	669.0	653.3	634.4	609.5
58.5°	286.1	294.6	312.6	390.2	533.4	624.1	652.1	647.9	631.4	614.5	589.1
59°	278.8	286.5	302.6	375.6	515.0	603.3	630.6	626.8	611.8	594.5	569.9
59.5°	271.5	278.8	293.0	361.4	496.9	583.4	609.1	606.0	591.0	574.5	550.3
60°	264.2	271.1	283.4	347.6	479.3	563.4	588.3	586.0	570.7	555.7	531.9
60.5°	257.3	263.5	274.2	334.5	462.0	543.8	568.8	566.5	551.9	537.3	513.5
61°	250.4	256.2	265.0	321.1	445.5	524.6	549.6	547.3	531.5	518.8	495.4
61.5°	243.5	249.2	256.9	308.4	428.6	506.2	530.4	528.4	513.5	500.8	478.1
62°	237.0	242.3	248.5	296.5	412.5	488.1	511.5	510.4	495.4	483.1	461.2
62.5°	230.4	235.4	240.4	284.6	397.1	470.4	493.1	492.0	476.6	465.8	444.7
63°	224.3	228.5	232.7	273.1	381.7	452.4	475.4	474.3	460.1	448.9	428.2
63.5°	218.1	222.0	225.0	261.5	366.0	435.1	457.8	457.0	442.4	432.4	412.8
64°	212.0	215.8	217.8	250.8	352.5	418.6	441.3	440.5	425.5	416.3	397.1
64.5°	205.8	209.3	210.8	240.4	338.7	402.5	424.7	424.0	410.2	400.9	382.1
65°	199.3	203.2	204.3	230.4	324.9	387.1	408.6	408.2	394.4	386.0	367.9
65.5°	193.2	197.0	197.4	220.8	311.1	371.8	392.9	392.9	378.7	371.0	353.7
66°	187.0	190.9	190.9	211.2	297.2	356.4	377.9	377.9	364.1	356.4	339.5



TEST NUMBER: P776495

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-HCD8TRLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	167.8	172.8	172.8	185.1	259.2	314.9	335.3	335.7	323.4	316.1	300.7
68°	162.1	167.1	167.1	176.7	247.3	301.5	322.2	322.6	309.9	303.0	287.6
68.5°	155.9	161.3	161.3	169.0	236.2	287.6	308.8	309.2	296.9	290.0	275.4
69°	149.8	155.5	155.5	160.9	224.7	275.0	295.7	296.1	283.4	278.0	263.5
69.5°	144.0	149.4	150.2	154.0	214.3	262.3	282.3	283.0	271.5	266.1	251.9
70°	137.5	143.6	144.8	147.1	203.9	250.0	270.0	271.1	260.0	254.6	240.4
70.5°	132.1	137.5	139.8	140.6	193.9	238.5	257.7	259.2	248.5	243.5	229.7
71°	126.7	132.1	134.8	134.4	184.0	227.7	246.6	248.1	237.3	232.3	219.3
71.5°	121.0	127.1	129.8	128.7	174.7	216.6	235.4	237.0	226.2	221.6	208.9
72°	115.6	121.7	124.8	122.5	165.5	205.8	224.3	225.8	215.8	211.2	198.9
72.5°	110.2	116.7	120.2	116.7	156.7	195.5	213.9	215.4	205.5	201.2	188.9
73°	104.8	111.4	115.2	110.6	148.2	185.5	203.2	205.5	195.5	191.3	179.7
73.5°	99.1	106.0	110.2	105.6	139.8	175.9	193.9	195.5	185.9	182.0	170.5
74°	93.7	101.0	105.6	100.6	132.1	166.7	184.0	186.3	176.7	172.8	161.7
74.5°	88.7	96.0	101.0	95.6	124.4	157.8	174.4	176.7	167.4	164.4	153.2
75°	83.3	90.6	96.4	91.0	117.1	149.0	165.1	167.8	158.6	155.5	144.8
75.5°	78.3	86.0	91.8	86.8	109.8	140.6	156.7	159.0	150.2	147.1	136.7
76°	73.4	81.0	87.6	82.6	103.3	132.5	147.9	150.5	141.7	138.6	128.7
76.5°	68.7	76.0	83.0	78.3	96.8	124.4	139.8	142.5	134.0	131.0	121.4
77°	64.1	71.4	78.7	74.5	90.6	117.1	131.7	134.4	126.0	123.3	114.1
77.5°	60.3	66.8	74.5	71.0	84.5	109.8	124.0	126.7	118.3	116.0	106.8
78°	56.8	62.6	70.3	67.2	78.7	102.5	116.4	119.4	111.0	108.7	99.9
78.5°	53.4	58.8	66.1	63.8	73.0	96.0	109.5	112.1	104.1	101.8	93.3
79°	49.9	54.9	62.2	59.9	68.0	89.5	102.2	105.2	96.8	94.9	87.2
79.5°	46.9	51.5	58.4	56.5	62.6	83.0	95.6	98.3	90.2	88.7	80.6
80°	43.4	48.4	54.5	53.0	58.0	77.2	89.1	91.4	83.7	82.2	74.5
80.5°	40.7	44.9	50.7	49.9	53.0	71.4	82.6	85.3	77.2	76.0	69.1
81°	37.6	41.9	47.2	46.5	49.2	65.7	76.8	79.1	71.0	69.9	63.4
81.5°	34.6	38.4	44.2	43.0	44.5	60.3	70.7	73.0	64.9	64.1	58.0
82°	31.5	35.3	40.7	39.9	40.7	55.3	65.3	67.2	59.1	58.8	52.6
82.5°	28.8	32.3	37.6	36.9	36.9	50.3	59.5	61.4	53.4	53.4	47.6
83°	25.7	29.2	34.6	33.8	33.4	45.7	54.5	56.1	48.0	48.0	43.0
83.5°	22.7	26.1	31.5	31.1	30.3	41.5	49.2	50.7	42.2	43.0	38.8
84°	20.0	23.4	28.4	28.0	27.3	37.6	44.5	45.7	37.3	38.4	34.6
84.5°	17.3	20.4	25.3	25.3	23.8	33.4	39.6	40.7	31.9	33.8	30.3
85°	14.6	17.7	22.3	22.3	20.7	29.6	35.7	36.1	26.9	29.2	26.1
85.5°	12.3	14.6	19.6	19.6	18.0	25.7	31.5	31.9	21.9	24.6	21.9
86°	10.0	12.3	16.5	16.9	15.4	21.9	27.3	27.7	16.5	20.0	17.7
86.5°	7.7	10.4	14.2	14.2	13.1	18.8	23.0	23.0	12.3	16.5	14.2
87°	5.8	8.1	11.5	11.9	10.8	15.4	18.8	18.8	10.0	13.1	10.8
87.5°	3.8	5.8	9.2	9.6	8.4	12.3	15.4	15.0	7.7	10.0	7.3
88°	2.3	3.8	6.5	6.9	6.5	9.6	11.5	11.5	5.4	6.5	4.2
88.5°	1.2	2.3	4.2	4.6	4.6	6.9	8.4	7.7	3.1	3.1	1.2



TEST NUMBER: P776495
CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-HCD8TRLWW-4000lm-2700K

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: P776495

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-HCD8TRLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1645.6	1645.6	1645.6	1645.6	1645.6	1645.6
0.5°	1650.2	1649.1	1642.9	1637.5	1632.6	1629.9
1°	1654.4	1648.7	1637.5	1627.9	1619.9	1616.8
1.5°	1658.7	1647.9	1631.8	1618.0	1607.2	1603.4
2°	1662.9	1647.1	1626.0	1608.4	1594.5	1589.5
2.5°	1667.1	1646.4	1620.3	1598.0	1582.2	1576.5
3°	1671.0	1645.2	1614.5	1588.0	1570.3	1563.8
3.5°	1674.4	1644.5	1608.4	1578.0	1558.8	1551.5
4°	1678.3	1643.3	1602.2	1568.4	1546.9	1540.0
4.5°	1681.7	1642.2	1596.1	1558.8	1535.8	1528.1
5°	1684.8	1641.0	1589.5	1549.6	1525.0	1517.0
5.5°	1687.9	1639.5	1583.4	1540.0	1514.3	1505.4
6°	1690.9	1637.9	1576.9	1531.2	1503.5	1494.3
6.5°	1693.6	1636.4	1570.7	1522.0	1492.8	1483.2
7°	1696.3	1634.9	1564.2	1513.1	1482.0	1471.6
7.5°	1699.0	1632.9	1557.7	1503.9	1471.3	1460.5
8°	1701.3	1631.0	1551.5	1495.1	1460.5	1449.4
8.5°	1703.6	1629.1	1544.6	1485.9	1449.8	1438.2
9°	1705.9	1626.8	1538.1	1476.6	1438.6	1427.1
9.5°	1707.8	1624.5	1531.6	1467.4	1428.2	1416.0
10°	1709.7	1622.2	1525.0	1458.6	1417.5	1404.8
10.5°	1711.3	1619.5	1518.1	1449.0	1406.7	1394.1
11°	1712.8	1616.8	1511.6	1439.8	1396.0	1382.5
11.5°	1714.0	1614.1	1504.7	1430.2	1385.2	1371.4
12°	1715.1	1611.4	1497.8	1420.9	1374.5	1360.3
12.5°	1716.3	1608.4	1490.5	1411.3	1363.7	1349.5
13°	1717.0	1604.9	1483.5	1401.7	1353.4	1338.4
13.5°	1717.8	1601.8	1476.2	1392.1	1342.2	1327.6
14°	1718.2	1598.4	1469.0	1382.5	1331.5	1316.5
14.5°	1718.2	1594.5	1461.7	1372.6	1320.7	1305.4
15°	1718.2	1590.7	1454.4	1363.0	1310.0	1294.6
15.5°	1718.2	1586.9	1446.3	1353.0	1298.4	1283.5
16°	1717.8	1582.6	1438.6	1343.0	1288.1	1272.7
16.5°	1717.4	1578.4	1430.9	1333.0	1277.3	1262.0
17°	1716.7	1573.8	1422.9	1323.4	1266.6	1250.8
17.5°	1715.5	1569.2	1414.4	1313.0	1255.4	1240.1
18°	1714.4	1564.6	1406.4	1303.0	1244.7	1228.9
18.5°	1712.8	1559.2	1397.9	1292.3	1233.5	1218.2
19°	1710.9	1554.2	1389.5	1282.3	1222.8	1207.4
19.5°	1709.0	1548.8	1380.6	1271.9	1212.0	1196.3
20°	1706.7	1543.1	1372.2	1262.0	1201.3	1185.5
20.5°	1704.4	1537.7	1363.0	1251.2	1190.1	1174.4
21°	1701.7	1531.6	1354.1	1240.4	1179.4	1163.6

TEST NUMBER: P776495

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-HCD8TRLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1692.1	1512.3	1326.1	1208.6	1146.0	1130.2
23°	1687.9	1505.8	1316.5	1198.2	1134.8	1119.1
23.5°	1684.0	1498.5	1306.9	1187.1	1123.7	1108.0
24°	1679.4	1491.6	1297.3	1176.3	1112.6	1096.8
24.5°	1674.8	1483.9	1287.3	1165.2	1101.0	1085.3
25°	1669.8	1476.2	1277.3	1154.4	1089.9	1073.8
25.5°	1664.8	1468.6	1266.9	1143.3	1078.8	1062.3
26°	1659.1	1460.9	1257.0	1132.1	1067.2	1050.7
26.5°	1653.3	1452.8	1246.6	1121.0	1055.3	1039.2
27°	1647.1	1444.0	1236.2	1109.9	1043.8	1026.9
27.5°	1640.6	1435.5	1225.5	1098.4	1031.9	1014.6
28°	1633.7	1426.7	1214.7	1086.8	1019.6	1002.7
28.5°	1626.8	1417.9	1204.0	1075.3	1008.1	990.4
29°	1619.5	1408.3	1193.2	1064.2	995.8	977.8
29.5°	1611.8	1399.1	1182.5	1052.7	983.9	965.1
30°	1603.8	1389.5	1171.3	1041.1	971.6	952.4
30.5°	1595.3	1379.5	1159.8	1028.8	958.9	939.4
31°	1586.9	1369.5	1148.7	1017.3	946.3	925.9
31.5°	1577.6	1359.5	1137.5	1005.4	933.2	912.5
32°	1568.8	1348.4	1125.6	993.5	920.2	898.7
32.5°	1558.8	1338.0	1114.1	981.6	907.1	884.8
33°	1548.8	1326.9	1102.2	969.3	894.0	871.4
33.5°	1538.1	1315.7	1090.7	957.0	880.2	857.2
34°	1526.6	1303.8	1078.4	944.7	866.8	843.4
34.5°	1515.0	1291.9	1066.5	932.4	853.3	828.4
35°	1502.7	1280.0	1054.2	919.8	839.1	814.2
35.5°	1491.2	1268.9	1042.3	907.1	825.3	799.2
36°	1480.5	1258.1	1030.4	894.8	811.1	785.0
36.5°	1470.1	1247.4	1018.5	881.8	796.5	769.6
37°	1459.4	1236.6	1006.6	868.7	782.3	755.0
37.5°	1447.4	1225.9	994.7	856.0	767.7	739.7
38°	1434.0	1214.3	982.8	843.0	753.1	725.1
38.5°	1419.0	1202.0	970.9	830.3	738.1	709.3
39°	1401.7	1188.6	959.3	816.9	723.5	695.1
39.5°	1383.7	1174.0	946.7	804.2	708.6	680.5
40°	1364.5	1158.3	933.6	790.4	694.0	666.7
40.5°	1345.3	1141.8	920.2	777.3	678.6	652.1
41°	1325.3	1125.2	906.3	763.9	664.0	639.0
41.5°	1304.2	1107.6	892.5	750.4	649.4	625.6
42°	1283.1	1089.9	877.5	736.2	635.2	613.3
42.5°	1261.6	1071.9	862.6	722.4	621.8	600.6
43°	1240.1	1053.4	847.2	708.2	607.9	588.0
43.5°	1217.0	1034.6	831.8	693.6	594.9	575.7

TEST NUMBER: P776495

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-HCD8TRLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1148.3	977.0	783.1	649.0	556.5	540.3
45.5°	1124.5	957.0	766.5	634.0	544.6	529.6
46°	1100.7	937.8	750.0	618.3	531.9	518.1
46.5°	1078.0	917.1	733.1	603.3	520.4	506.9
47°	1053.4	897.1	716.2	587.6	508.9	496.2
47.5°	1029.2	876.4	699.0	571.8	497.3	485.4
48°	1005.4	856.8	682.1	556.1	485.8	475.1
48.5°	982.4	836.1	664.8	540.7	474.7	464.7
49°	957.8	816.1	647.9	525.4	463.5	454.7
49.5°	934.0	795.7	630.6	510.8	452.8	444.3
50°	910.2	775.0	613.3	495.8	442.0	434.3
50.5°	887.5	755.0	596.0	481.6	431.3	424.4
51°	862.9	735.1	579.9	467.0	420.9	414.8
51.5°	841.0	715.1	562.6	453.6	410.5	405.5
52°	817.2	694.7	546.1	439.7	400.6	395.9
52.5°	795.0	674.4	529.2	426.3	390.6	386.7
53°	772.3	655.2	512.7	412.8	381.0	377.5
53.5°	750.4	636.0	496.2	400.6	371.0	368.7
54°	727.8	616.4	480.4	387.9	361.4	359.5
54.5°	706.6	597.2	464.7	375.2	352.2	351.0
55°	685.1	579.1	448.9	363.3	342.9	342.2
55.5°	664.4	560.3	433.2	351.8	334.1	333.7
56°	643.3	542.3	418.6	340.3	325.3	325.7
56.5°	622.9	523.8	403.6	328.7	316.4	317.2
57°	602.9	506.2	389.0	318.0	307.6	309.2
57.5°	583.7	488.5	374.4	307.6	299.2	301.5
58°	564.2	472.0	361.0	297.6	291.1	293.4
58.5°	545.7	455.5	347.6	287.6	283.0	286.1
59°	526.5	439.0	334.5	278.0	275.4	278.8
59.5°	508.5	422.4	321.4	268.8	267.7	271.5
60°	490.8	407.1	309.2	260.0	260.0	264.2
60.5°	473.5	391.3	296.9	251.2	252.7	257.3
61°	456.2	376.7	285.0	242.7	245.4	250.4
61.5°	440.1	362.5	273.8	234.6	238.5	243.5
62°	423.6	347.9	262.7	227.0	231.6	237.0
62.5°	407.9	334.1	251.5	219.3	225.0	230.4
63°	392.1	320.3	241.2	212.0	218.5	224.3
63.5°	377.1	307.2	231.2	204.7	211.6	218.1
64°	362.1	294.2	221.6	198.2	205.8	212.0
64.5°	347.9	281.9	212.0	191.6	199.7	205.8
65°	334.9	269.6	203.2	185.1	193.6	199.3
65.5°	321.4	258.1	194.3	179.0	187.8	193.2
66°	308.0	246.2	185.9	173.2	182.0	187.0

TEST NUMBER: P776495

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-HCD8TRLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	269.2	213.9	162.1	155.9	164.4	167.8
68°	257.3	203.5	154.8	150.5	158.2	162.1
68.5°	245.8	193.6	147.9	145.2	152.5	155.9
69°	234.6	184.3	140.9	140.2	146.7	149.8
69.5°	223.5	175.1	134.8	135.6	140.9	144.0
70°	212.8	165.9	128.7	130.6	135.6	137.5
70.5°	202.8	157.5	122.5	126.0	130.2	132.1
71°	192.8	149.0	116.4	121.0	124.8	126.7
71.5°	182.8	140.9	110.6	116.0	119.4	121.0
72°	173.6	133.6	105.2	111.4	114.1	115.6
72.5°	164.4	126.7	99.9	106.8	108.7	110.2
73°	155.5	119.4	94.5	102.2	103.3	104.8
73.5°	147.1	112.1	89.9	97.5	98.3	99.1
74°	139.0	104.8	85.3	93.3	93.3	93.7
74.5°	131.0	98.3	81.0	88.7	88.3	88.7
75°	123.3	92.2	76.8	84.5	83.3	83.3
75.5°	116.0	86.0	72.6	80.3	78.3	78.3
76°	108.7	80.3	68.7	76.0	73.7	73.4
76.5°	102.2	74.9	64.9	71.8	68.7	68.7
77°	95.2	69.5	61.4	67.6	64.5	64.1
77.5°	89.1	64.5	58.0	63.8	59.9	60.3
78°	83.0	59.5	54.9	59.5	56.1	56.8
78.5°	76.8	54.9	51.5	55.7	52.2	53.4
79°	71.4	50.3	48.0	52.2	48.8	49.9
79.5°	65.7	46.1	44.9	48.4	45.7	46.9
80°	60.3	41.9	41.9	44.5	42.2	43.4
80.5°	55.3	38.0	38.8	41.5	39.2	40.7
81°	50.7	34.6	35.7	38.0	36.1	37.6
81.5°	46.1	31.1	32.6	34.9	32.6	34.6
82°	41.5	27.7	30.0	31.9	29.6	31.5
82.5°	37.6	24.6	27.3	28.8	26.9	28.8
83°	34.2	21.9	24.6	26.1	23.8	25.7
83.5°	30.3	19.2	21.5	23.0	20.7	22.7
84°	26.5	16.5	19.2	20.4	18.0	20.0
84.5°	22.7	13.8	16.5	17.7	15.4	17.3
85°	18.8	11.9	13.8	15.0	13.1	14.6
85.5°	15.7	9.6	11.5	12.7	10.8	12.3
86°	12.7	7.7	9.2	10.4	8.4	10.0
86.5°	9.6	5.4	6.9	7.7	6.5	7.7
87°	6.9	3.8	4.6	5.4	4.6	5.8
87.5°	4.6	1.9	2.7	3.5	3.1	3.8
88°	1.9	0.8	0.8	1.5	1.9	2.3
88.5°	0.4	0.0	0.0	0.4	0.8	1.2



TEST NUMBER: P776495
CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-HCD8TRLWW-4000lm-2700K

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°	1152.5	1178.2	1248.9	1370.6	1563.0	1741.2	1869.1	1940.6	1955.9	1919.8	1832.6
22°	1141.4	1167.9	1238.5	1362.2	1557.7	1739.3	1869.1	1941.3	1956.3	1919.8	1831.5



44°	563.8	594.5	705.5	866.0	1107.6	1307.3	1403.7	1420.9	1398.3	1363.0	1301.1
44.5°	552.2	581.4	690.9	851.0	1090.3	1285.4	1376.8	1391.8	1369.9	1334.2	1275.0



66.5°	180.5	185.1	184.7	202.0	283.4	342.2	362.9	362.9	349.9	342.6	326.8
67°	174.4	179.0	178.6	193.2	271.1	328.7	348.7	348.7	336.4	329.5	313.8



89°	0.4	1.2	1.9	2.7	3.1	4.2	5.0	3.8	0.8	0.4	0.0
89.5°	0.0	0.4	0.4	0.8	1.5	1.9	1.9	0.8	0.0	0.0	0.0

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21.5°	1698.6	1525.4	1344.9	1230.1	1168.2	1152.5
22°	1695.2	1518.9	1335.7	1219.3	1157.1	1141.4



44°	1194.7	1015.4	815.7	679.0	581.8	563.8
44.5°	1170.6	996.2	799.2	664.4	569.1	552.2



66.5°	294.9	235.0	177.8	167.4	175.9	180.5
67°	281.5	223.9	169.7	161.7	170.1	174.4

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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)