

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: P776352

Luminaire Tested: HCDJBL3040CSD-HCD61TRMB-4000lm-3500K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776352
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B038)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD61TRMB-4000lm-3500K
Description: 6 INCH ROUND SHALLOW-WIDE MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

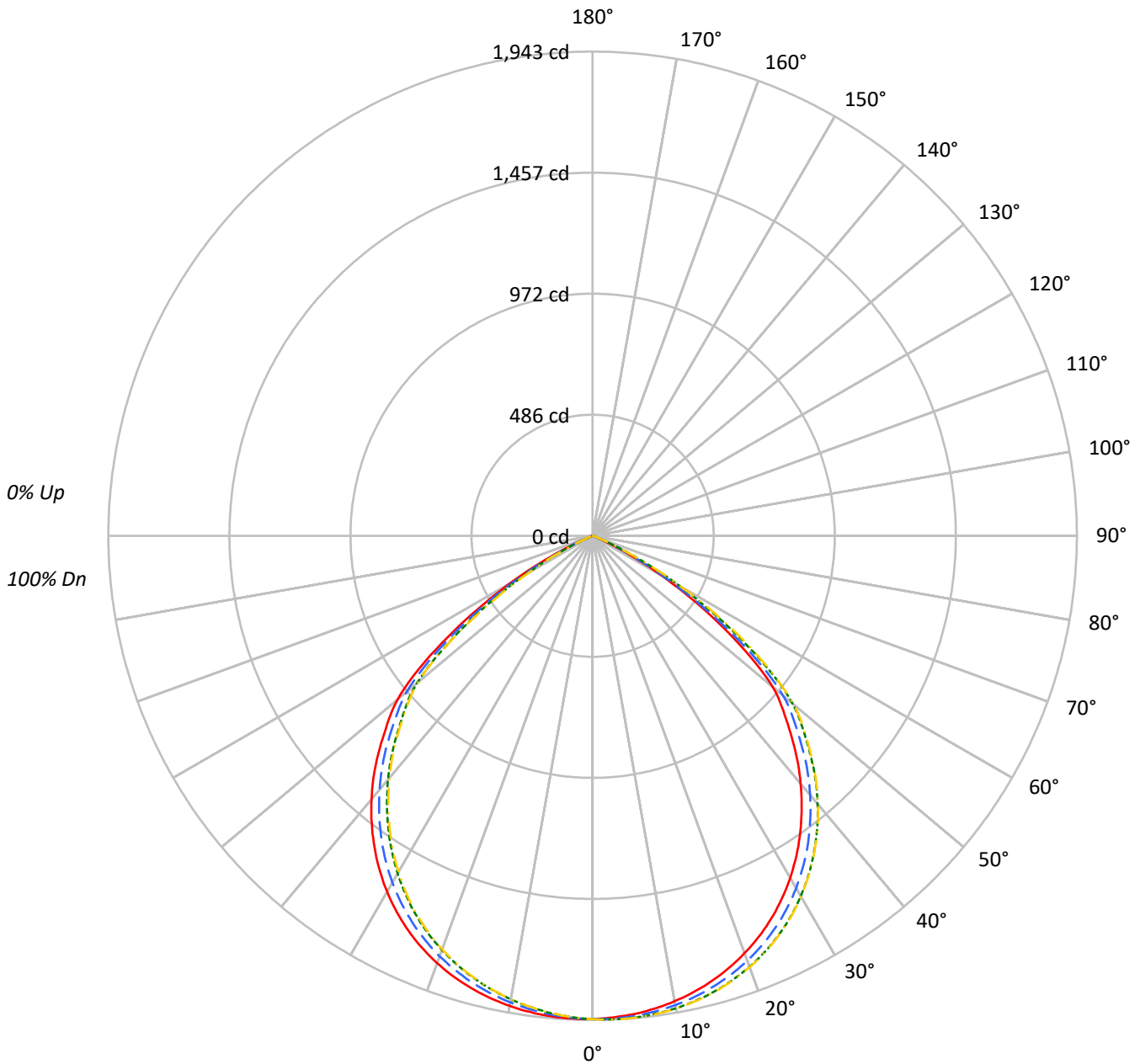
Lumens per Lamp: N/A
Luminaire Lumens: 4058.8 lumens
Efficiency: N/A
Efficacy: 105.4 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.24 / 1.32
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

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	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	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90								
2	104	97	92	88	101	96	91	87	92	88	85	89	86	83	86	83	81	79								
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	71	69								
4	89	79	72	66	87	78	71	65	75	69	65	73	68	64	71	67	63	61								
5	82	71	64	58	81	70	63	58	68	62	57	66	61	56	65	60	56	54								
6	77	65	57	51	75	64	57	51	62	56	51	61	55	50	59	54	50	48								
7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45	43								
8	67	54	47	41	65	54	46	41	52	46	41	51	45	41	50	45	40	39								
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°	106340	106340	106340	106340
5°	105998	106785	106504	105805
10°	105565	107179	106650	105147
15°	104944	107407	106681	104337
20°	104006	107366	106438	103195
25°	102544	106875	105768	101492
30°	100351	105731	104396	99066
35°	97179	103671	102151	95693
40°	92910	100503	98771	91350
45°	87195	95638	93692	85559
50°	80364	89242	87033	78496
55°	60739	70382	68069	58875
60°	35206	44010	42310	34504
65°	10831	16707	15306	11700
70°	192	321	192	192
75°	85	169	85	85
80°	126	126	0	126
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 112.5°
 Vertical Angle: 45°
 Luminance: 95971 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.6	4.5
10°-20°	526.2	13.0
20°-30°	792.7	19.5
30°-40°	929.8	22.9
40°-50°	900.4	22.2
50°-60°	599.0	14.8
60°-70°	126.4	3.1
70°-80°	0.7	0.0
80°-90°	0.0	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°	1502.5	37.0
0°-40°	2432.3	59.9
0°-60°	3931.7	96.9
0°-90°	4058.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4058.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1940	1940	1940	1940	1940	
5°	1926	1940	1935	1923	1926	183
15°	1849	1892	1880	1838	1849	522
25°	1695	1767	1749	1678	1695	780
35°	1452	1549	1526	1430	1452	906
45°	1125	1234	1208	1104	1125	867
55°	636	736	712	616	636	564
65°	84	129	118	90	84	106
75°	0	1	0	0	0	1
85°	0	0	0	0	0	0
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°	1939.8	1939.8	1939.8	1939.8	1939.8	1939.8	1939.8	1939.8	1939.8	1939.8	1939.8
0.5°	1938.6	1938.6	1939.8	1940.9	1940.5	1940.9	1940.9	1940.5	1939.4	1939.0	1939.4
1°	1937.8	1938.6	1939.8	1941.3	1941.3	1941.7	1941.7	1940.9	1939.8	1938.6	1938.6
1.5°	1937.0	1937.8	1939.8	1940.9	1941.7	1942.1	1942.1	1941.3	1939.8	1938.6	1938.2
2°	1935.8	1937.0	1939.4	1940.9	1942.1	1942.9	1942.9	1941.3	1939.8	1937.8	1937.4
2.5°	1934.6	1936.2	1938.6	1940.9	1942.1	1942.9	1942.9	1941.3	1939.4	1937.4	1936.2
3°	1933.0	1935.4	1938.2	1940.5	1942.1	1942.9	1942.9	1941.3	1939.0	1936.6	1935.0
3.5°	1931.8	1934.2	1937.4	1940.2	1941.7	1942.9	1942.9	1941.3	1938.2	1935.4	1933.4
4°	1929.8	1932.6	1936.6	1939.4	1941.7	1942.5	1942.5	1940.5	1937.4	1934.6	1932.2
4.5°	1928.2	1931.4	1935.4	1938.6	1940.9	1942.1	1942.1	1940.2	1936.6	1933.4	1930.6
5°	1926.2	1929.8	1933.8	1937.8	1940.5	1941.7	1941.3	1939.4	1935.4	1931.8	1928.6
5.5°	1924.3	1927.8	1932.6	1937.0	1939.8	1940.9	1940.5	1938.2	1934.2	1930.2	1926.6
6°	1921.5	1925.8	1931.4	1935.8	1938.6	1940.2	1939.8	1937.0	1933.0	1928.2	1924.3
6.5°	1919.1	1923.9	1929.4	1934.2	1937.8	1939.0	1938.6	1935.8	1931.4	1926.6	1921.9
7°	1916.3	1921.5	1927.4	1932.6	1936.2	1937.8	1937.4	1934.2	1929.8	1924.3	1919.5
7.5°	1913.5	1919.1	1925.4	1931.0	1935.0	1936.6	1936.2	1932.6	1927.4	1922.3	1917.1
8°	1910.7	1916.7	1923.1	1929.0	1933.4	1935.0	1934.6	1931.0	1925.8	1919.9	1914.3
8.5°	1907.2	1913.9	1920.7	1927.0	1931.4	1933.4	1933.0	1929.0	1923.5	1917.1	1911.1
9°	1904.0	1910.7	1917.9	1924.7	1929.8	1931.4	1931.0	1927.0	1921.1	1914.7	1908.4
9.5°	1900.4	1907.6	1915.1	1922.3	1927.4	1929.4	1929.0	1924.7	1918.7	1911.5	1904.8
10°	1896.4	1904.4	1912.3	1919.5	1925.4	1927.0	1926.6	1922.7	1915.9	1908.4	1901.6
10.5°	1892.9	1900.8	1909.2	1916.7	1922.7	1924.7	1924.3	1919.9	1913.1	1905.2	1898.0
11°	1888.5	1897.2	1906.0	1913.9	1920.3	1922.3	1921.5	1917.1	1910.3	1902.0	1894.1
11.5°	1884.5	1893.3	1902.4	1910.3	1917.5	1919.5	1918.7	1913.9	1906.8	1898.4	1890.5
12°	1879.7	1889.3	1898.8	1907.2	1914.3	1916.7	1915.9	1911.1	1903.6	1894.8	1886.1
12.5°	1875.4	1884.9	1894.8	1903.6	1911.1	1913.5	1912.7	1908.0	1900.4	1890.9	1882.1
13°	1870.2	1880.5	1890.9	1900.0	1907.6	1910.3	1909.2	1904.4	1896.4	1886.9	1877.4
13.5°	1865.4	1875.8	1886.9	1896.0	1904.4	1906.8	1906.0	1900.8	1892.5	1882.5	1872.6
14°	1860.3	1871.0	1882.1	1892.1	1900.4	1903.2	1902.0	1896.8	1888.5	1878.2	1867.8
14.5°	1854.7	1866.2	1877.8	1888.1	1896.4	1899.2	1898.0	1892.9	1884.1	1873.4	1863.1
15°	1849.1	1860.7	1873.0	1883.3	1892.5	1895.2	1894.1	1888.5	1879.7	1868.6	1857.9
15.5°	1843.2	1855.5	1868.2	1878.9	1888.1	1890.9	1890.1	1884.5	1875.0	1863.8	1852.7
16°	1837.6	1849.9	1863.1	1874.2	1883.7	1886.5	1885.3	1879.7	1870.2	1858.7	1846.8
16.5°	1831.3	1844.0	1857.5	1869.4	1878.9	1881.7	1880.5	1875.0	1865.4	1853.1	1840.8
17°	1824.9	1838.0	1851.9	1863.8	1874.2	1877.0	1875.8	1869.8	1860.3	1847.6	1834.8
17.5°	1818.5	1832.1	1846.4	1858.3	1869.0	1872.2	1871.0	1865.0	1854.7	1841.6	1828.5
18°	1811.8	1826.1	1840.4	1852.7	1863.5	1866.6	1865.4	1859.1	1849.1	1835.6	1822.1
18.5°	1804.6	1819.3	1834.4	1847.2	1858.3	1861.1	1859.9	1853.5	1843.2	1829.7	1815.8
19°	1797.5	1812.2	1827.7	1841.2	1852.3	1855.5	1854.3	1847.6	1837.2	1823.3	1809.0
19.5°	1790.3	1805.4	1821.3	1834.8	1846.8	1849.9	1848.3	1841.6	1830.9	1817.0	1802.3
20°	1782.8	1798.7	1814.6	1828.5	1840.4	1843.6	1842.4	1835.6	1824.5	1810.2	1795.5
20.5°	1774.8	1791.1	1807.4	1822.1	1834.0	1837.2	1836.0	1828.9	1818.1	1803.0	1787.5
21°	1767.3	1783.2	1800.7	1815.4	1827.3	1830.9	1829.3	1822.5	1811.4	1795.9	1780.4



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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°	1741.8	1759.7	1777.6	1793.1	1806.6	1809.8	1808.2	1801.1	1789.1	1773.2	1756.2
23°	1733.1	1751.4	1769.7	1785.6	1799.1	1802.6	1800.7	1793.5	1781.6	1764.9	1747.4
23.5°	1724.0	1742.6	1761.7	1777.6	1791.5	1795.1	1793.5	1786.0	1774.0	1756.5	1739.1
24°	1714.8	1733.9	1753.0	1769.7	1783.6	1787.1	1785.2	1777.6	1765.7	1748.2	1730.3
24.5°	1704.9	1724.4	1744.2	1760.9	1775.6	1779.2	1777.2	1769.7	1757.3	1739.5	1721.2
25°	1695.3	1714.8	1735.1	1752.2	1766.9	1770.5	1768.5	1761.3	1748.6	1730.7	1711.6
25.5°	1685.4	1705.7	1725.9	1743.4	1758.5	1762.1	1760.1	1752.6	1739.9	1721.2	1702.1
26°	1675.5	1695.7	1716.8	1734.3	1749.8	1753.0	1751.4	1743.4	1730.7	1711.6	1692.6
26.5°	1664.7	1685.8	1706.9	1725.2	1740.7	1744.2	1742.2	1734.3	1721.6	1702.1	1682.2
27°	1654.4	1675.5	1696.9	1715.6	1731.1	1735.1	1732.7	1725.2	1711.6	1692.2	1672.3
27.5°	1643.3	1664.7	1686.6	1705.7	1722.0	1725.6	1723.6	1715.6	1702.1	1682.2	1662.0
28°	1632.2	1654.0	1676.3	1695.3	1712.0	1715.2	1713.6	1705.7	1691.8	1671.5	1651.2
28.5°	1620.6	1643.3	1665.9	1685.4	1701.7	1705.7	1703.7	1695.7	1681.4	1661.2	1640.5
29°	1609.1	1631.8	1654.8	1675.1	1691.4	1694.9	1693.4	1685.4	1671.5	1650.4	1629.4
29.5°	1597.6	1620.6	1643.7	1664.3	1681.4	1684.6	1682.6	1674.7	1660.4	1639.7	1617.9
30°	1585.3	1608.7	1632.6	1653.2	1670.3	1673.9	1671.9	1664.0	1649.2	1627.8	1606.3
30.5°	1572.9	1597.2	1621.0	1641.7	1659.2	1662.8	1661.2	1653.2	1638.1	1616.3	1594.8
31°	1560.6	1584.9	1609.1	1630.2	1648.1	1651.2	1649.6	1641.7	1626.6	1604.7	1582.5
31.5°	1547.5	1572.5	1597.2	1618.6	1636.5	1639.7	1637.7	1630.2	1614.7	1592.8	1570.6
32°	1534.8	1559.8	1584.9	1607.1	1624.6	1628.2	1626.2	1618.2	1602.8	1580.5	1557.8
32.5°	1521.3	1547.1	1572.2	1594.4	1612.7	1615.9	1614.7	1606.7	1590.8	1568.2	1545.1
33°	1508.2	1534.0	1559.8	1582.1	1600.8	1603.9	1602.4	1594.0	1578.5	1555.5	1532.4
33.5°	1494.7	1520.9	1546.7	1569.4	1588.0	1591.2	1589.6	1581.3	1565.8	1542.7	1519.3
34°	1480.7	1507.4	1533.6	1556.7	1575.3	1578.9	1576.9	1569.0	1552.7	1529.6	1505.8
34.5°	1466.4	1493.9	1520.1	1543.1	1562.2	1565.8	1564.2	1555.9	1539.6	1516.1	1492.3
35°	1452.1	1480.0	1506.2	1530.0	1549.1	1552.3	1550.7	1542.7	1526.4	1502.2	1478.4
35.5°	1437.8	1465.6	1492.7	1516.1	1535.6	1539.2	1537.2	1529.2	1512.5	1488.7	1464.5
36°	1422.7	1450.9	1478.4	1502.6	1522.1	1525.3	1523.7	1515.7	1498.6	1475.2	1450.1
36.5°	1408.4	1436.6	1464.1	1488.3	1508.2	1511.7	1510.2	1501.8	1484.7	1460.9	1435.8
37°	1392.9	1421.9	1449.4	1473.6	1494.3	1497.4	1495.8	1487.9	1470.4	1446.2	1421.1
37.5°	1377.4	1406.8	1434.6	1459.3	1479.6	1483.1	1481.1	1473.6	1455.7	1431.9	1406.8
38°	1361.5	1391.7	1419.5	1444.2	1465.2	1468.4	1466.8	1458.5	1441.4	1416.4	1391.7
38.5°	1346.4	1376.2	1404.8	1429.1	1450.5	1453.7	1452.5	1443.8	1426.3	1402.1	1376.2
39°	1330.9	1361.1	1389.3	1414.4	1435.4	1438.6	1437.4	1429.1	1410.8	1386.6	1361.1
39.5°	1314.6	1345.2	1373.4	1398.5	1419.9	1423.5	1421.9	1413.6	1395.7	1371.1	1345.2
40°	1298.3	1328.9	1357.9	1382.6	1404.4	1408.0	1406.4	1398.5	1380.2	1355.2	1329.7
40.5°	1282.0	1313.0	1341.7	1366.7	1388.5	1392.5	1390.9	1382.2	1364.3	1339.7	1313.8
41°	1265.4	1296.3	1325.4	1350.0	1372.7	1376.6	1375.0	1366.3	1348.4	1323.4	1297.5
41.5°	1248.3	1279.7	1308.7	1334.1	1356.0	1360.3	1359.1	1350.0	1331.7	1307.1	1281.2
42°	1231.6	1262.6	1292.0	1317.0	1339.7	1344.0	1342.4	1333.7	1315.4	1290.4	1264.6
42.5°	1214.5	1246.3	1274.9	1299.9	1323.0	1327.3	1326.2	1316.6	1298.3	1274.1	1247.9
43°	1196.6	1228.8	1257.4	1282.4	1305.9	1309.9	1309.1	1299.5	1281.2	1256.2	1230.8
43.5°	1179.1	1210.5	1239.9	1264.6	1288.0	1292.8	1291.6	1282.0	1263.8	1238.7	1213.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1124.7	1156.1	1184.7	1209.3	1233.6	1237.9	1237.5	1227.2	1208.5	1183.9	1158.4
45.5°	1106.4	1137.4	1166.4	1190.6	1214.9	1220.0	1219.3	1208.5	1189.8	1165.2	1139.8
46°	1088.5	1119.5	1148.1	1172.4	1196.6	1202.2	1201.0	1190.6	1171.6	1146.5	1121.9
46.5°	1071.0	1102.0	1130.2	1154.5	1178.7	1185.1	1183.9	1172.8	1152.9	1128.6	1103.6
47°	1053.9	1084.5	1112.7	1136.6	1160.8	1167.2	1166.4	1154.9	1135.0	1110.4	1085.7
47.5°	1036.8	1067.4	1095.3	1119.1	1143.3	1149.7	1148.9	1137.4	1117.5	1092.9	1068.6
48°	1019.8	1050.0	1077.4	1101.2	1125.9	1132.6	1131.8	1120.3	1100.0	1075.4	1051.5
48.5°	1003.1	1032.5	1060.3	1083.7	1108.4	1116.3	1114.7	1102.8	1082.1	1058.3	1034.5
49°	984.8	1013.8	1040.4	1063.9	1088.9	1096.8	1095.7	1083.7	1063.1	1038.8	1015.0
49.5°	964.9	993.9	1019.8	1042.4	1068.2	1075.8	1074.6	1062.7	1042.0	1017.8	994.7
50°	942.3	972.1	997.1	1018.6	1046.4	1053.9	1053.1	1040.8	1020.5	996.3	972.5
50.5°	917.2	945.0	972.1	994.3	1022.1	1028.9	1026.9	1016.2	996.7	971.3	947.4
51°	889.8	917.2	944.2	967.3	995.5	1001.9	1000.3	990.3	970.5	944.2	920.0
51.5°	860.4	887.8	914.4	938.7	967.3	973.3	972.5	961.3	943.1	916.4	891.0
52°	829.0	857.6	883.8	907.7	936.7	944.2	943.4	931.9	912.8	886.6	862.0
52.5°	798.4	826.6	852.0	873.9	905.3	914.8	914.0	901.3	880.7	855.6	831.8
53°	766.6	794.0	819.1	839.7	872.7	883.0	883.0	869.9	847.7	823.8	800.8
53.5°	734.4	761.4	785.7	805.2	838.9	852.0	852.4	836.9	813.5	791.2	769.0
54°	701.4	728.5	750.7	769.8	804.8	819.9	820.3	804.0	779.7	758.3	736.0
54.5°	668.8	695.5	715.7	734.4	770.2	786.9	787.7	769.8	745.1	723.3	703.8
55°	635.5	661.7	680.4	698.6	736.4	754.7	755.5	736.0	712.2	689.9	671.2
55.5°	602.1	627.1	645.0	663.3	701.8	719.7	721.7	701.0	677.6	654.9	637.4
56°	569.5	593.7	609.2	627.1	666.5	685.5	687.5	667.2	644.2	620.0	604.9
56.5°	536.9	559.9	573.9	593.7	631.9	651.0	652.9	632.7	609.2	585.8	571.5
57°	503.5	526.2	538.5	558.8	597.7	616.4	618.8	599.3	576.6	551.2	538.5
57.5°	471.7	492.4	504.3	524.6	563.9	581.4	584.2	565.5	542.9	518.2	505.5
58°	440.3	459.4	470.1	491.6	530.1	546.8	549.6	532.1	510.7	484.4	472.9
58.5°	409.7	426.4	436.4	459.0	497.2	512.7	515.4	499.5	478.9	452.3	441.1
59°	379.5	394.2	404.6	427.2	464.6	478.5	481.3	467.8	447.1	420.5	410.1
59.5°	349.3	361.6	373.2	395.8	432.8	445.5	446.7	435.6	415.3	389.9	379.9
60°	321.1	331.0	343.4	364.8	401.4	412.9	413.3	404.2	385.9	361.2	350.1
60.5°	292.5	300.8	313.2	334.6	372.0	381.9	382.7	374.4	356.5	332.6	320.3
61°	264.7	271.8	284.5	305.6	342.6	351.3	351.7	344.6	327.5	304.0	290.9
61.5°	237.7	244.0	257.5	277.8	313.2	320.3	320.7	314.7	298.1	275.4	261.1
62°	211.8	217.8	230.5	250.4	283.8	289.7	289.7	284.9	268.6	249.2	235.3
62.5°	187.2	192.7	205.5	224.1	254.3	259.1	258.7	255.1	241.6	223.3	209.4
63°	163.7	168.5	180.8	199.9	226.5	230.5	230.1	227.3	215.8	199.1	185.2
63.5°	140.7	146.2	158.2	175.7	200.3	203.9	203.5	201.1	191.2	175.7	162.5
64°	121.6	128.4	136.3	153.0	175.3	178.0	178.0	175.7	166.1	153.4	141.5
64.5°	102.5	110.9	118.8	133.1	151.4	153.8	153.4	151.0	141.9	132.7	121.2
65°	83.5	93.0	100.9	114.5	128.8	130.7	130.7	128.4	118.0	112.5	102.9
65.5°	64.8	75.5	83.1	95.4	106.9	109.7	109.7	106.5	95.4	93.8	85.8
66°	45.7	57.6	65.6	76.7	87.0	89.4	89.4	86.2	74.3	76.3	69.9



TEST NUMBER: P776352

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	14.7	24.6	28.6	31.4	45.3	46.9	46.9	44.5	33.4	40.1	37.0
68°	11.1	17.1	19.9	21.1	33.4	34.6	34.6	33.0	19.9	30.2	25.8
68.5°	7.9	13.9	12.3	13.1	21.5	22.3	22.3	21.1	6.4	19.9	15.1
69°	4.4	10.7	9.5	9.9	9.9	10.3	9.9	9.9	2.0	9.5	8.7
69.5°	1.2	7.6	6.8	7.2	4.8	4.8	4.8	4.8	1.2	4.8	4.4
70°	1.2	4.4	4.0	4.0	2.0	2.0	2.0	2.0	1.2	2.0	2.0
70.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
71°	0.8	0.8	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
71.5°	0.8	0.8	0.8	0.8	1.2	1.2	1.2	0.8	0.8	0.8	0.8
72°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
72.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
73°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
73.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
74°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
74.5°	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.8	0.8
75°	0.4	0.4	0.4	0.4	0.8	0.8	0.8	0.4	0.4	0.4	0.4
75.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
76°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
76.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
77°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
77.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
78°	0.4	0.4	0.4	0.4	0.4	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	0.4	0.4	0.4	0.4	0.4
79°	0.4	0.4	0.4	0.4	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	0.0	0.4	0.4
80.5°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.4
81°	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	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	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: P776352
CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776352

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1939.8	1939.8	1939.8	1939.8	1939.8	1939.8
0.5°	1939.4	1939.0	1939.0	1939.4	1939.0	1938.6
1°	1938.6	1937.8	1937.8	1938.2	1938.2	1937.8
1.5°	1937.8	1936.6	1936.2	1937.0	1937.0	1937.0
2°	1936.6	1935.0	1934.6	1935.4	1935.4	1935.8
2.5°	1935.4	1933.0	1933.0	1933.4	1933.8	1934.6
3°	1933.8	1931.4	1931.0	1931.8	1932.2	1933.0
3.5°	1932.2	1929.4	1929.0	1929.8	1930.6	1931.8
4°	1930.2	1927.4	1926.6	1927.4	1928.6	1929.8
4.5°	1928.2	1925.0	1924.3	1925.0	1926.2	1928.2
5°	1926.2	1922.7	1921.9	1922.7	1923.9	1926.2
5.5°	1923.9	1919.9	1919.1	1919.9	1921.5	1924.3
6°	1921.5	1917.1	1916.3	1917.1	1918.7	1921.5
6.5°	1918.7	1914.3	1913.1	1913.9	1916.3	1919.1
7°	1915.9	1911.1	1909.9	1911.1	1913.1	1916.3
7.5°	1913.1	1907.6	1906.8	1907.6	1909.9	1913.5
8°	1909.9	1904.4	1902.8	1904.0	1906.8	1910.7
8.5°	1906.4	1900.8	1899.2	1900.4	1903.2	1907.2
9°	1903.2	1896.8	1895.2	1896.4	1899.2	1904.0
9.5°	1899.2	1893.3	1891.7	1892.5	1895.6	1900.4
10°	1895.6	1888.9	1887.3	1888.5	1891.7	1896.4
10.5°	1891.7	1884.5	1882.9	1884.1	1887.3	1892.9
11°	1887.7	1880.1	1878.2	1879.7	1882.9	1888.5
11.5°	1883.3	1875.8	1873.4	1874.6	1878.6	1884.5
12°	1878.9	1870.6	1868.6	1869.8	1873.8	1879.7
12.5°	1874.2	1865.8	1863.5	1864.6	1869.0	1875.4
13°	1869.4	1860.7	1858.3	1859.5	1863.8	1870.2
13.5°	1864.2	1855.5	1852.7	1853.9	1858.3	1865.4
14°	1859.5	1849.9	1847.2	1848.3	1853.1	1860.3
14.5°	1853.9	1844.0	1841.6	1842.8	1847.2	1854.7
15°	1848.3	1838.4	1835.2	1836.8	1841.6	1849.1
15.5°	1842.8	1832.1	1828.9	1830.5	1835.2	1843.2
16°	1836.4	1826.1	1822.5	1824.1	1829.3	1837.6
16.5°	1830.9	1819.3	1816.2	1817.7	1822.9	1831.3
17°	1824.5	1812.6	1809.4	1810.6	1816.2	1824.9
17.5°	1817.7	1805.8	1802.3	1803.8	1809.4	1818.5
18°	1811.4	1798.7	1795.1	1796.7	1802.3	1811.8
18.5°	1804.2	1791.5	1787.5	1789.1	1795.1	1804.6
19°	1797.1	1784.4	1780.0	1781.6	1787.5	1797.5
19.5°	1789.9	1776.8	1772.0	1773.6	1780.4	1790.3
20°	1782.4	1768.9	1764.1	1765.7	1772.4	1782.8
20.5°	1774.8	1760.5	1755.8	1757.3	1764.1	1774.8
21°	1766.9	1752.2	1747.4	1748.6	1755.8	1767.3

TEST NUMBER: P776352

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1741.4	1725.9	1720.4	1722.0	1729.5	1741.8
23°	1733.1	1716.8	1710.8	1712.4	1720.4	1733.1
23.5°	1724.0	1707.7	1701.7	1702.9	1711.2	1724.0
24°	1714.8	1698.1	1691.8	1693.0	1701.3	1714.8
24.5°	1705.3	1687.8	1681.8	1683.0	1691.4	1704.9
25°	1695.7	1677.9	1671.5	1672.7	1681.4	1695.3
25.5°	1685.8	1667.9	1660.8	1662.4	1671.1	1685.4
26°	1675.9	1657.2	1650.0	1651.6	1660.8	1675.5
26.5°	1665.1	1646.1	1638.9	1640.5	1649.6	1664.7
27°	1654.4	1634.9	1628.2	1629.4	1638.9	1654.4
27.5°	1644.1	1624.2	1617.1	1617.9	1627.8	1643.3
28°	1633.0	1612.7	1605.1	1606.3	1616.3	1632.2
28.5°	1621.4	1600.8	1593.2	1594.4	1604.3	1620.6
29°	1610.3	1589.2	1581.3	1582.9	1592.8	1609.1
29.5°	1598.8	1576.9	1569.0	1570.2	1580.9	1597.6
30°	1586.5	1565.0	1556.7	1557.8	1568.2	1585.3
30.5°	1574.5	1552.3	1543.5	1544.7	1555.9	1572.9
31°	1562.2	1539.2	1530.8	1532.0	1542.7	1560.6
31.5°	1549.5	1526.4	1517.3	1518.5	1529.6	1547.5
32°	1536.4	1513.3	1504.2	1505.4	1516.5	1534.8
32.5°	1523.7	1499.8	1490.7	1491.5	1503.4	1521.3
33°	1510.2	1486.3	1476.8	1478.0	1489.5	1508.2
33.5°	1497.0	1472.8	1462.9	1464.5	1475.6	1494.7
34°	1483.1	1458.9	1449.0	1449.7	1461.7	1480.7
34.5°	1469.6	1444.2	1434.2	1435.4	1447.4	1466.4
35°	1454.9	1429.9	1419.5	1421.1	1432.7	1452.1
35.5°	1441.0	1415.2	1405.2	1406.4	1418.0	1437.8
36°	1426.7	1400.9	1390.5	1391.7	1403.6	1422.7
36.5°	1412.4	1385.8	1375.8	1376.6	1388.9	1408.4
37°	1397.3	1370.7	1360.7	1361.5	1373.4	1392.9
37.5°	1382.2	1355.6	1344.8	1346.4	1358.3	1377.4
38°	1367.1	1340.1	1329.7	1330.9	1342.4	1361.5
38.5°	1351.2	1324.6	1314.2	1315.4	1326.9	1346.4
39°	1336.1	1308.7	1298.7	1299.5	1311.4	1330.9
39.5°	1320.2	1293.2	1282.8	1284.0	1295.6	1314.6
40°	1304.3	1276.5	1266.9	1267.7	1278.9	1298.3
40.5°	1288.4	1260.6	1250.6	1251.8	1262.6	1282.0
41°	1271.7	1243.9	1234.4	1235.5	1246.3	1265.4
41.5°	1255.4	1227.2	1217.3	1218.9	1229.6	1248.3
42°	1238.7	1210.5	1201.0	1202.2	1212.9	1231.6
42.5°	1222.0	1193.4	1184.3	1185.1	1195.8	1214.5
43°	1204.9	1175.9	1166.4	1168.0	1177.9	1196.6
43.5°	1187.1	1158.0	1148.9	1150.1	1160.0	1179.1



TEST NUMBER: P776352

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1133.0	1103.6	1095.3	1096.1	1105.6	1124.7
45.5°	1114.7	1085.7	1077.0	1078.2	1087.3	1106.4
46°	1096.8	1067.8	1059.1	1060.3	1069.8	1088.5
46.5°	1078.6	1050.7	1042.0	1042.8	1052.3	1071.0
47°	1061.5	1033.7	1025.3	1026.1	1034.9	1053.9
47.5°	1044.4	1016.6	1008.2	1009.4	1017.8	1036.8
48°	1027.7	999.9	991.1	992.7	1001.1	1019.8
48.5°	1010.6	982.8	974.4	975.2	984.0	1003.1
49°	992.3	964.1	955.8	957.0	966.1	984.8
49.5°	972.5	943.8	936.3	937.5	946.2	964.9
50°	950.6	920.4	913.2	915.6	924.8	942.3
50.5°	924.8	894.2	887.8	890.6	898.9	917.2
51°	897.3	866.0	860.0	862.4	871.9	889.8
51.5°	868.3	837.3	830.6	832.6	843.3	860.4
52°	839.3	806.7	800.0	802.0	812.3	829.0
52.5°	808.7	775.7	769.0	770.2	780.1	798.4
53°	778.1	743.6	736.0	737.2	747.9	766.6
53.5°	746.3	712.2	703.0	704.6	715.3	734.4
54°	715.7	680.4	670.0	671.2	682.0	701.4
54.5°	683.1	648.2	637.8	638.2	649.4	668.8
55°	651.8	616.0	604.5	604.9	616.0	635.5
55.5°	618.8	585.0	571.9	571.1	583.0	602.1
56°	587.4	553.6	539.3	537.3	550.8	569.5
56.5°	554.8	522.6	507.5	505.1	519.0	536.9
57°	523.0	490.8	475.7	472.5	486.8	503.5
57.5°	491.6	460.6	444.3	441.1	455.4	471.7
58°	460.6	430.4	414.1	410.9	424.8	440.3
58.5°	429.6	401.0	384.3	380.3	393.8	409.7
59°	399.0	371.6	355.3	351.3	365.2	379.5
59.5°	370.0	342.6	327.5	323.1	336.6	349.3
60°	340.6	314.7	299.2	296.1	308.4	321.1
60.5°	311.6	287.3	273.0	269.8	281.4	292.5
61°	282.6	260.3	247.6	244.8	255.1	264.7
61.5°	255.9	235.3	223.7	221.0	229.7	237.7
62°	229.7	210.2	200.7	199.1	205.5	211.8
62.5°	204.3	186.0	178.8	177.2	182.0	187.2
63°	179.6	163.7	158.2	157.0	159.4	163.7
63.5°	156.6	142.3	137.9	137.1	138.3	140.7
64°	134.7	124.8	121.6	120.8	121.2	121.6
64.5°	114.5	107.3	105.3	104.9	104.1	102.5
65°	95.8	90.2	89.0	88.6	87.0	83.5
65.5°	78.7	72.7	72.7	72.7	69.9	64.8
66°	62.4	55.6	58.8	59.6	55.6	45.7



TEST NUMBER: P776352

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	32.6	23.0	26.2	27.0	23.4	14.7
68°	22.7	15.9	18.3	18.7	16.3	11.1
68.5°	13.1	12.3	11.5	11.9	12.3	7.9
69°	7.9	8.7	8.7	9.1	8.7	4.4
69.5°	4.0	4.8	6.4	6.4	4.8	1.2
70°	2.0	1.2	3.6	3.6	1.2	1.2
70.5°	1.2	1.2	1.2	1.2	1.2	1.2
71°	0.8	0.8	0.8	0.8	0.8	0.8
71.5°	0.8	0.8	0.8	0.8	0.8	0.8
72°	0.8	0.8	0.8	0.8	0.8	0.8
72.5°	0.8	0.8	0.8	0.8	0.8	0.8
73°	0.8	0.8	0.8	0.8	0.8	0.8
73.5°	0.8	0.8	0.8	0.8	0.8	0.8
74°	0.8	0.8	0.8	0.8	0.8	0.8
74.5°	0.8	0.4	0.4	0.4	0.4	0.4
75°	0.4	0.4	0.4	0.4	0.4	0.4
75.5°	0.4	0.4	0.4	0.4	0.4	0.4
76°	0.4	0.4	0.4	0.4	0.4	0.4
76.5°	0.4	0.4	0.4	0.4	0.4	0.4
77°	0.4	0.4	0.4	0.4	0.4	0.4
77.5°	0.4	0.4	0.4	0.4	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	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	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: P776352
CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.0	0.0



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Peachtree City, GA 30269

Scaled Data Report





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

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Scaled Data Report





21.5°	1758.5	1775.6	1793.1	1808.2	1820.9	1824.1	1822.5	1815.8	1804.2	1788.3	1772.4
22°	1750.6	1767.7	1785.6	1801.1	1813.8	1817.4	1815.4	1808.2	1797.1	1780.8	1764.5



44°	1160.8	1192.2	1220.8	1246.7	1269.7	1274.5	1273.7	1263.8	1245.1	1220.8	1195.0
44.5°	1142.6	1174.3	1203.0	1228.0	1251.8	1257.4	1255.0	1245.9	1226.8	1202.6	1176.7



66.5°	33.0	44.9	51.7	58.0	69.1	71.5	71.5	68.0	60.8	60.8	58.8
67°	22.7	33.8	39.3	43.7	57.2	59.2	59.2	56.0	47.3	50.5	48.1



89°	0.0	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	0.0

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21.5°	1758.5	1743.8	1738.7	1739.9	1747.4	1758.5
22°	1750.2	1735.1	1729.9	1731.1	1738.7	1750.6



44°	1169.2	1139.8	1131.0	1131.8	1142.2	1160.8
44.5°	1151.3	1121.9	1113.1	1113.9	1123.9	1142.6

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66.5°	52.5	42.5	46.9	46.9	43.3	33.0
67°	42.5	31.8	35.8	36.2	32.6	22.7

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

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Scaled Data Report



(END OF REPORT)