

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: P776322

Luminaire Tested: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-3500K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776322
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B009)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-3500K
Description: 4 INCH SQUARE MEDIUM LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3502.8 lumens
Efficiency: N/A
Efficacy: 91.0 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.14 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

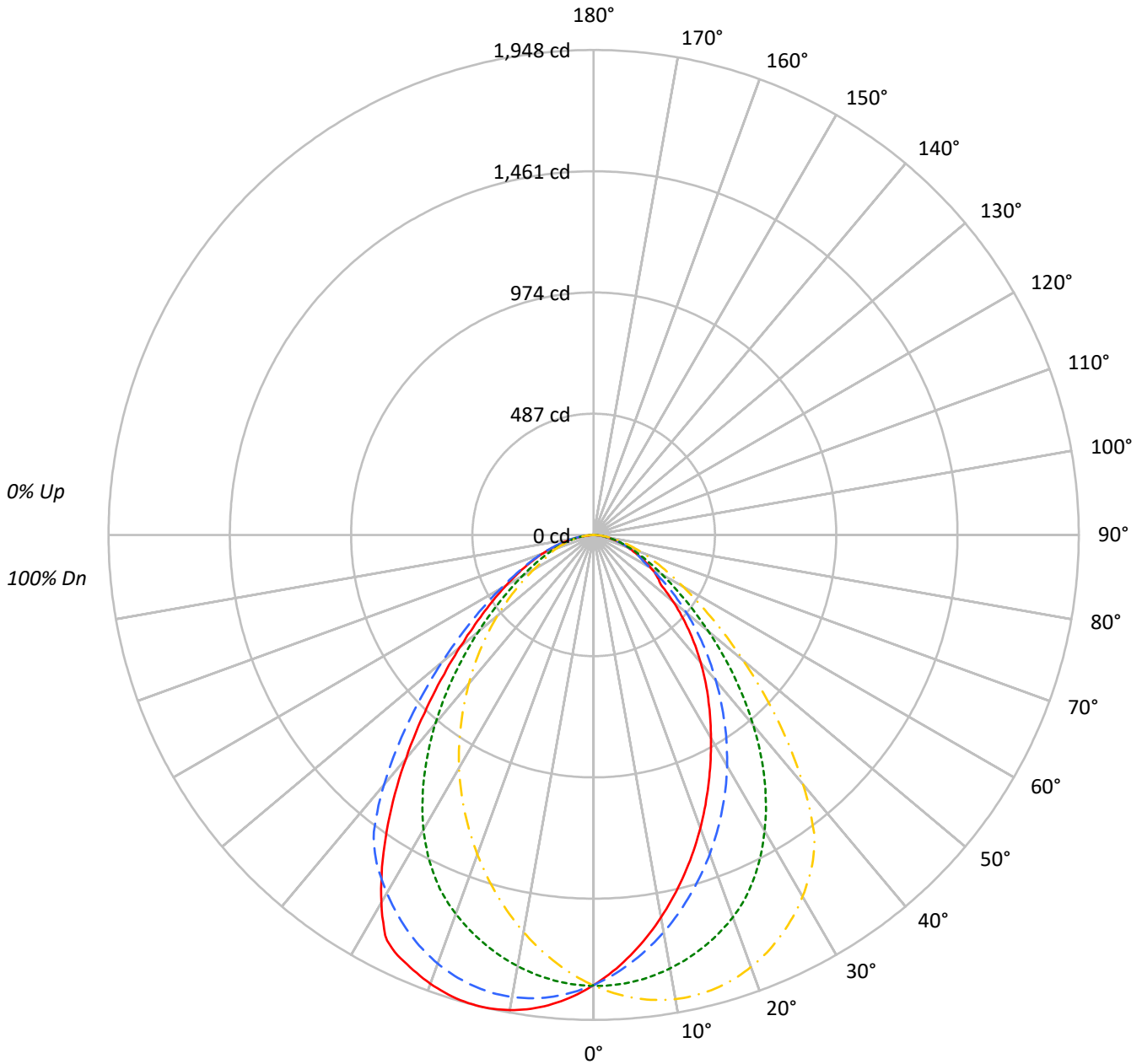
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				100				
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	88				88				
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76				76				
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66				66				
4	87	77	69	63	85	75	68	63	73	67	62	71	65	61	69	64	60	58				58				
5	81	70	62	56	79	68	61	55	66	60	55	65	59	54	63	58	54	52				52				
6	75	63	55	50	74	62	55	49	61	54	49	59	53	49	58	52	48	46				46				
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	42				42				
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38				38				
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34				34				
10	58	46	38	34	57	45	38	34	44	38	33	43	37	33	43	37	33	32				32				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	227662	227662	227662	227662
5°	214168	227622	238916	227029
10°	199278	225948	247672	224772
15°	183604	223055	253608	221348
20°	167756	218849	256858	216881
25°	151871	211414	258752	209970
30°	136919	199523	247754	198549
35°	123153	183716	222478	182364
40°	109808	163809	192394	162297
45°	96126	141101	162672	140265
50°	81624	117414	137090	118197
55°	70541	96256	117276	98801
60°	67128	79915	102215	83615
65°	60123	67449	90408	72183
70°	53796	58064	79700	63326
75°	47555	50035	68415	56016
80°	37469	41745	52978	48992
85°	18338	30468	25269	40142

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 225°
 Vertical Angle: 45°
 Luminance: 185454 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	170.1	4.9
10°-20°	475.8	13.6
20°-30°	687.1	19.6
30°-40°	739.2	21.1
40°-50°	613.5	17.5
50°-60°	412.8	11.8
60°-70°	249.8	7.1
70°-80°	126.2	3.6
80°-90°	28.4	0.8
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°	1333.0	38.1
0°-40°	2072.2	59.2
0°-60°	3098.4	88.5
0°-90°	3502.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3502.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1809	1809	1809	1809	1809	
5°	1695	1802	1891	1797	1695	157
15°	1409	1712	1946	1699	1409	394
25°	1094	1522	1863	1512	1094	502
35°	802	1196	1448	1187	802	501
45°	540	793	914	788	540	416
55°	322	439	534	450	322	294
65°	202	226	304	242	202	201
75°	98	103	141	115	98	104
85°	13	21	18	28	13	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°	1809.0	1809.0	1809.0	1809.0	1809.0	1809.0	1809.0	1809.0	1809.0	1809.0	1809.0
0.5°	1798.3	1798.3	1800.2	1804.2	1811.8	1814.5	1816.9	1818.1	1818.1	1816.5	1814.1
1°	1787.9	1788.7	1793.1	1800.2	1811.8	1818.1	1823.7	1826.9	1827.7	1825.3	1820.5
1.5°	1777.2	1778.8	1785.5	1795.9	1811.4	1821.3	1830.0	1835.2	1836.8	1833.2	1826.5
2°	1766.5	1768.8	1777.6	1791.1	1810.6	1824.5	1836.0	1843.6	1845.5	1841.2	1832.8
2.5°	1754.9	1758.1	1769.2	1786.3	1809.8	1827.3	1842.0	1851.1	1853.9	1849.1	1838.4
3°	1743.8	1747.8	1761.3	1781.2	1808.6	1830.0	1847.5	1858.7	1862.2	1856.3	1843.6
3.5°	1731.9	1736.7	1752.6	1776.0	1807.4	1832.0	1852.7	1866.2	1869.8	1863.4	1848.7
4°	1720.0	1725.9	1743.4	1770.4	1805.4	1834.4	1857.9	1873.0	1877.3	1870.2	1853.5
4.5°	1707.6	1714.0	1734.3	1764.5	1803.8	1836.0	1862.6	1879.3	1884.5	1876.5	1857.5
5°	1695.3	1702.9	1725.1	1758.5	1801.8	1837.6	1867.0	1885.7	1891.2	1882.5	1861.8
5.5°	1682.2	1691.0	1715.2	1752.2	1799.4	1838.8	1871.0	1891.6	1897.6	1888.1	1865.4
6°	1669.5	1678.6	1705.7	1745.8	1797.1	1840.0	1874.6	1897.2	1903.6	1893.6	1869.0
6.5°	1656.8	1665.9	1695.7	1739.0	1794.3	1840.4	1878.1	1902.0	1909.1	1898.4	1872.2
7°	1643.3	1654.0	1685.4	1732.7	1791.1	1840.8	1881.3	1906.7	1914.7	1902.8	1875.0
7.5°	1629.4	1640.9	1674.7	1725.1	1787.9	1840.8	1884.1	1911.1	1919.5	1907.1	1877.3
8°	1616.2	1628.2	1664.3	1718.0	1784.3	1840.8	1886.5	1915.5	1923.8	1911.1	1879.3
8.5°	1602.3	1615.1	1653.6	1710.4	1780.4	1840.4	1888.5	1919.1	1928.2	1914.3	1880.9
9°	1588.0	1601.9	1642.5	1702.9	1776.4	1839.6	1890.5	1922.2	1931.8	1917.5	1882.5
9.5°	1573.7	1588.0	1630.9	1694.5	1772.4	1838.4	1892.0	1925.0	1935.0	1920.3	1883.7
10°	1559.4	1574.5	1619.8	1686.6	1768.1	1837.2	1893.2	1927.8	1938.1	1922.6	1884.5
10.5°	1544.7	1561.0	1608.3	1678.2	1763.3	1835.6	1894.0	1930.2	1940.5	1924.6	1885.3
11°	1530.4	1547.1	1596.8	1669.9	1758.5	1834.0	1894.4	1931.8	1942.9	1926.2	1885.3
11.5°	1515.7	1533.2	1584.8	1660.8	1753.3	1832.0	1894.4	1933.4	1944.5	1927.4	1884.9
12°	1500.2	1519.3	1572.5	1652.0	1748.2	1829.6	1894.4	1934.6	1946.1	1928.2	1884.5
12.5°	1485.5	1504.6	1560.6	1642.9	1742.6	1827.3	1894.0	1935.0	1947.3	1929.0	1883.7
13°	1470.8	1490.3	1548.3	1633.7	1737.1	1824.5	1892.8	1935.4	1947.7	1929.0	1882.5
13.5°	1455.3	1476.0	1536.0	1624.6	1731.1	1821.3	1891.6	1935.4	1948.1	1928.6	1880.9
14°	1440.2	1461.7	1522.9	1615.1	1725.1	1817.7	1890.1	1935.0	1948.1	1927.8	1878.9
14.5°	1424.7	1446.9	1510.1	1605.1	1718.8	1814.5	1888.5	1934.2	1947.3	1926.6	1876.5
15°	1409.2	1431.4	1497.4	1595.2	1712.0	1810.6	1886.1	1933.0	1946.5	1925.4	1874.2
15.5°	1393.7	1416.7	1484.7	1585.2	1705.3	1806.6	1883.7	1931.4	1945.3	1923.8	1871.4
16°	1378.2	1402.0	1471.6	1575.3	1698.5	1801.8	1880.9	1929.4	1943.7	1921.8	1868.2
16.5°	1363.1	1386.9	1458.1	1565.0	1691.4	1797.5	1877.7	1927.4	1941.7	1919.5	1864.6
17°	1347.2	1372.2	1445.0	1554.2	1683.8	1792.3	1874.6	1925.0	1939.3	1916.3	1861.0
17.5°	1331.7	1356.3	1431.4	1543.5	1675.9	1787.1	1870.6	1921.8	1936.6	1913.1	1856.7
18°	1315.8	1341.2	1418.3	1532.8	1667.9	1781.2	1866.6	1918.3	1933.4	1909.5	1852.3
18.5°	1300.3	1326.1	1404.8	1521.7	1660.0	1775.6	1862.2	1914.7	1929.8	1905.6	1847.5
19°	1284.4	1310.6	1390.9	1510.1	1651.6	1769.6	1857.5	1910.7	1926.2	1901.6	1842.8
19.5°	1268.1	1295.1	1377.4	1499.0	1642.9	1762.9	1852.3	1906.3	1922.2	1896.8	1837.6
20°	1252.6	1280.0	1363.1	1487.5	1634.1	1756.5	1847.1	1901.6	1917.9	1892.0	1832.0
20.5°	1236.7	1264.5	1349.6	1475.6	1625.0	1749.4	1841.6	1896.4	1913.1	1886.9	1825.7
21°	1220.8	1249.0	1335.7	1463.6	1615.4	1742.2	1835.6	1891.2	1908.3	1881.3	1819.7

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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°	1173.1	1202.5	1293.2	1427.1	1584.1	1718.8	1816.1	1873.4	1892.0	1863.0	1799.0
23°	1156.8	1186.6	1278.4	1414.0	1572.9	1709.6	1809.0	1867.0	1886.5	1856.7	1791.9
23.5°	1141.3	1171.5	1264.5	1401.2	1560.6	1700.5	1801.4	1860.2	1880.5	1849.9	1784.3
24°	1125.4	1155.7	1249.8	1386.9	1548.3	1690.6	1793.1	1853.9	1875.0	1843.2	1776.4
24.5°	1109.2	1140.2	1235.5	1373.4	1535.6	1679.8	1785.1	1846.7	1869.4	1835.6	1768.1
25°	1093.7	1124.7	1220.4	1359.1	1522.5	1668.7	1776.8	1839.6	1863.4	1828.5	1759.7
25.5°	1078.2	1108.8	1206.1	1344.8	1509.3	1657.2	1768.4	1832.8	1855.5	1821.3	1750.6
26°	1062.7	1093.3	1191.4	1329.7	1495.4	1645.7	1759.3	1826.1	1846.7	1814.5	1741.8
26.5°	1047.2	1078.2	1176.7	1315.4	1481.1	1632.9	1750.2	1818.9	1837.6	1807.0	1732.3
27°	1031.7	1062.3	1162.0	1300.3	1466.4	1619.8	1740.6	1811.4	1828.1	1799.4	1722.7
27.5°	1016.6	1047.2	1147.3	1285.2	1451.3	1606.7	1731.1	1801.4	1813.0	1789.5	1713.2
28°	1001.1	1031.7	1132.2	1269.7	1436.2	1592.8	1721.2	1791.5	1792.3	1779.2	1703.3
28.5°	986.4	1016.6	1117.5	1254.2	1420.7	1578.5	1710.8	1781.6	1771.2	1768.8	1692.9
29°	971.7	1001.1	1102.0	1238.3	1405.2	1563.8	1700.1	1770.4	1751.8	1757.7	1682.2
29.5°	956.6	986.8	1086.9	1222.8	1388.9	1548.3	1689.0	1753.3	1728.3	1740.6	1671.5
30°	942.2	972.1	1071.4	1206.5	1373.0	1532.4	1677.8	1731.9	1704.9	1720.0	1660.8
30.5°	927.5	956.9	1055.9	1190.6	1355.9	1516.9	1665.9	1711.2	1681.4	1698.9	1649.6
31°	913.2	941.1	1040.4	1174.3	1339.6	1501.0	1653.6	1691.4	1657.6	1678.6	1638.5
31.5°	898.9	927.5	1024.5	1158.0	1322.2	1483.9	1640.9	1667.9	1631.3	1656.0	1627.0
32°	884.6	912.8	1009.0	1141.7	1305.1	1467.2	1628.6	1644.5	1606.3	1632.9	1615.4
32.5°	870.7	898.9	993.5	1125.4	1287.6	1449.7	1616.2	1620.6	1581.3	1610.3	1603.9
33°	856.8	884.6	978.0	1108.8	1269.7	1432.2	1603.1	1597.6	1555.0	1586.4	1592.0
33.5°	842.9	870.7	962.5	1092.5	1251.0	1414.4	1589.6	1572.5	1528.4	1562.6	1579.7
34°	829.4	856.8	946.6	1075.4	1233.5	1396.1	1575.3	1547.9	1501.4	1537.2	1565.8
34.5°	815.1	842.5	930.7	1058.7	1214.5	1376.6	1559.4	1522.1	1474.8	1512.9	1550.7
35°	801.6	827.8	915.2	1041.6	1195.8	1358.3	1543.5	1497.4	1448.1	1487.9	1534.8
35.5°	788.1	815.1	899.7	1024.9	1176.7	1338.5	1526.4	1471.2	1420.7	1463.2	1519.3
36°	774.9	801.2	884.6	1007.8	1156.8	1319.0	1508.9	1445.4	1392.9	1437.4	1503.0
36.5°	761.4	787.7	868.7	991.1	1137.4	1299.1	1487.5	1418.7	1366.3	1411.6	1483.1
37°	747.9	774.1	853.6	974.0	1118.3	1278.4	1462.4	1392.9	1338.5	1386.5	1458.9
37.5°	734.4	760.2	838.1	956.6	1098.0	1257.4	1437.4	1366.3	1310.2	1360.7	1435.4
38°	720.9	746.7	823.0	939.5	1077.8	1236.3	1413.2	1339.6	1281.6	1334.5	1411.6
38.5°	707.8	733.2	808.3	922.0	1057.5	1215.3	1388.1	1311.8	1255.4	1307.9	1387.7
39°	695.1	720.1	793.2	904.9	1037.6	1193.8	1361.5	1286.8	1228.0	1282.8	1361.5
39.5°	681.5	707.0	778.1	887.4	1017.4	1171.9	1334.9	1259.4	1199.8	1257.0	1335.7
40°	668.4	693.1	763.4	869.9	997.1	1149.7	1308.3	1232.0	1171.1	1230.4	1309.0
40.5°	655.3	680.0	748.7	852.8	976.0	1127.8	1281.6	1204.9	1146.5	1203.3	1282.8
41°	642.2	666.8	734.4	835.3	955.8	1105.6	1254.2	1179.9	1119.9	1179.1	1256.6
41.5°	629.5	653.7	719.7	818.3	935.1	1083.3	1227.2	1153.3	1091.7	1153.3	1228.8
42°	616.4	640.6	705.4	800.8	914.8	1061.1	1199.8	1125.4	1065.8	1126.2	1202.1
42.5°	603.7	627.5	691.1	784.1	894.6	1038.0	1173.1	1100.4	1041.2	1101.6	1174.7
43°	590.9	614.4	676.8	767.0	873.9	1015.8	1146.1	1075.4	1015.4	1077.0	1148.5
43.5°	577.8	601.7	662.5	749.9	853.2	993.1	1119.1	1048.4	986.8	1051.1	1121.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	540.1	563.1	620.7	699.4	792.8	925.2	1038.4	974.0	914.0	978.8	1042.0
45.5°	527.4	550.4	606.8	682.7	772.6	902.9	1011.0	946.6	890.6	952.6	1015.8
46°	515.4	538.1	593.3	666.4	752.7	880.6	984.4	923.2	869.5	927.9	989.5
46.5°	502.3	525.4	579.4	649.8	732.8	858.0	958.9	900.9	845.7	907.7	964.9
47°	490.0	512.7	565.9	633.9	712.9	835.7	933.1	875.9	819.8	883.8	939.1
47.5°	477.7	499.9	552.0	617.6	693.5	813.5	906.9	849.6	801.6	858.0	914.0
48°	465.8	487.6	539.3	601.7	674.0	791.6	880.6	830.2	781.7	837.7	889.0
48.5°	453.0	474.9	525.8	585.8	655.3	770.2	857.2	807.9	758.2	817.5	866.3
49°	441.1	463.0	512.7	570.7	636.6	748.7	833.0	782.9	737.6	794.0	842.1
49.5°	429.2	450.7	499.5	555.2	618.4	727.6	807.9	761.0	720.1	771.0	818.3
50°	416.9	438.3	486.4	539.7	599.7	705.8	783.7	741.6	700.2	752.7	794.4
50.5°	404.6	426.0	473.7	524.6	582.2	685.5	761.8	719.7	678.0	732.4	773.7
51°	393.0	414.1	461.0	510.3	564.7	664.5	738.4	696.3	662.9	708.2	751.1
51.5°	381.1	402.2	448.3	495.6	548.0	645.0	715.3	680.0	646.6	691.9	728.8
52°	369.6	390.3	436.0	481.3	530.9	624.3	695.1	660.9	625.5	673.6	707.4
52.5°	358.1	378.3	423.6	467.3	514.2	605.2	674.0	638.2	610.4	652.9	689.1
53°	347.3	366.4	411.7	453.4	498.3	585.4	651.7	621.9	595.7	633.5	666.8
53.5°	337.0	354.9	399.4	439.9	483.2	566.7	631.5	605.6	578.6	618.4	646.2
54°	330.6	343.8	387.5	426.4	467.7	547.6	612.4	586.6	561.9	600.1	627.9
54.5°	326.3	332.6	375.9	413.3	453.0	529.3	592.9	569.1	549.2	580.6	610.0
55°	321.5	322.3	364.4	401.0	438.7	511.9	573.1	554.8	534.5	567.1	590.1
55.5°	317.1	312.4	353.3	388.7	424.8	494.0	556.4	538.5	518.2	551.6	572.3
56°	312.0	307.2	341.8	376.7	411.3	477.3	538.1	521.4	506.7	532.9	555.6
56.5°	306.8	302.8	330.6	364.8	398.2	461.4	519.8	508.3	493.6	519.8	538.1
57°	302.0	298.1	319.9	353.3	385.1	445.5	503.9	493.6	478.5	506.3	520.6
57.5°	296.5	293.3	309.2	341.8	373.2	430.0	488.0	477.7	467.7	490.0	506.3
58°	291.3	288.1	299.2	331.0	360.8	415.7	470.9	466.2	455.8	476.9	490.0
58.5°	285.3	283.3	288.9	320.7	349.7	401.4	456.6	453.0	441.9	465.0	474.1
59°	279.0	277.8	279.0	310.4	339.0	387.9	441.9	437.9	430.4	450.7	460.2
59.5°	273.0	272.6	269.0	300.0	328.3	374.4	426.8	427.2	418.1	437.9	445.9
60°	266.7	267.1	259.9	290.5	317.5	361.6	413.3	415.3	406.1	426.8	430.8
60.5°	259.9	261.1	250.4	280.6	306.8	349.3	400.2	401.8	395.0	413.3	418.1
61°	253.5	255.1	241.6	271.8	296.1	337.8	386.3	391.4	383.5	401.4	405.4
61.5°	247.2	249.2	234.1	262.7	286.5	326.7	374.4	379.5	372.8	390.3	391.8
62°	240.4	242.8	226.5	253.9	277.4	315.1	362.4	367.2	362.0	377.9	379.9
62.5°	234.1	236.5	222.1	245.6	268.2	303.6	349.7	356.9	352.1	367.2	368.4
63°	227.7	230.5	217.4	237.3	259.1	293.7	339.0	346.1	342.6	356.9	355.7
63.5°	221.4	224.1	213.0	229.3	250.8	283.7	328.3	335.4	332.6	344.9	345.3
64°	214.6	218.2	208.6	221.8	242.4	274.2	317.9	325.1	323.1	335.0	335.0
64.5°	208.2	211.8	203.9	213.8	234.1	264.7	307.2	314.7	313.2	325.1	324.3
65°	201.9	205.9	199.1	206.7	226.5	255.9	296.5	304.4	303.6	315.1	313.9
65.5°	195.5	199.5	194.3	199.9	218.6	247.2	286.5	296.1	294.1	305.2	303.2
66°	189.2	193.5	189.6	192.7	211.0	238.4	277.0	285.7	284.9	295.7	293.3



TEST NUMBER: P776322

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	172.5	175.3	174.1	173.3	190.0	214.2	248.8	259.1	258.3	268.2	265.1
68°	166.9	169.7	168.5	167.3	183.2	206.7	240.0	250.4	250.0	259.1	255.9
68.5°	161.7	164.1	163.3	161.3	176.4	199.5	231.3	241.6	241.2	250.4	246.8
69°	156.6	158.6	158.6	155.4	170.1	192.3	222.5	233.3	233.3	241.6	238.0
69.5°	151.4	153.4	153.4	149.8	163.7	184.8	214.6	224.9	224.9	233.3	229.3
70°	146.2	148.2	147.8	144.7	157.8	178.0	206.3	216.6	216.6	224.9	221.4
70.5°	141.5	142.3	143.1	139.5	151.4	171.3	198.3	209.0	209.0	216.6	213.0
71°	136.7	137.9	138.3	134.7	145.8	164.9	190.8	200.7	201.1	209.0	205.1
71.5°	131.9	133.1	133.1	129.6	139.9	158.2	182.8	193.1	193.1	200.7	197.1
72°	126.8	128.4	128.0	124.8	134.3	151.8	175.3	185.2	185.2	192.7	189.6
72.5°	122.0	123.6	123.2	119.6	128.8	145.8	168.1	177.6	177.6	184.8	181.6
73°	117.2	118.8	118.0	115.2	123.6	139.5	160.9	170.5	170.1	177.6	174.5
73.5°	112.1	114.1	113.3	110.9	118.0	133.5	153.8	162.9	162.5	169.7	166.9
74°	107.3	108.9	108.1	106.9	112.9	128.0	146.6	155.4	155.0	162.1	159.8
74.5°	102.5	104.1	103.7	103.3	107.7	122.0	139.9	148.2	147.8	155.0	152.6
75°	97.8	99.4	99.4	99.4	102.9	116.4	133.1	141.5	140.7	147.8	145.8
75.5°	93.0	94.6	94.6	95.4	97.8	111.3	126.4	134.3	133.5	140.3	138.7
76°	88.2	89.8	89.8	91.0	93.0	105.7	120.4	127.2	126.4	133.5	131.9
76.5°	83.5	85.0	85.4	87.0	88.2	100.1	113.7	120.0	119.2	126.4	125.2
77°	79.1	80.3	81.1	83.1	83.9	95.0	107.7	113.7	112.9	119.6	118.8
77.5°	74.3	75.5	76.7	78.7	79.1	89.8	101.3	106.9	105.7	112.5	112.5
78°	69.9	70.7	72.3	74.7	74.7	84.6	95.4	100.5	99.0	106.1	106.1
78.5°	65.2	66.4	68.0	70.7	70.3	79.5	89.4	93.8	92.6	99.4	100.1
79°	60.8	61.6	64.0	66.4	66.0	74.7	83.9	87.4	85.8	92.6	93.8
79.5°	56.0	56.8	59.6	62.4	62.0	69.9	78.3	80.7	79.5	86.2	87.8
80°	51.7	52.1	55.2	58.4	57.6	65.2	72.7	74.3	73.1	79.9	82.3
80.5°	47.3	47.7	51.3	54.4	53.6	60.4	67.2	68.4	66.8	73.5	76.3
81°	42.9	42.9	47.3	50.5	49.7	56.0	62.0	62.0	60.4	67.2	70.7
81.5°	38.5	38.5	43.3	46.5	46.1	51.7	56.8	56.0	54.4	61.2	65.6
82°	34.2	34.2	39.7	42.9	42.1	47.3	51.7	50.9	48.5	55.2	60.0
82.5°	29.8	30.6	35.8	38.9	38.5	43.3	46.9	45.3	42.9	49.7	55.2
83°	25.8	26.6	32.2	35.4	35.0	38.9	42.5	40.5	37.4	44.1	50.1
83.5°	21.5	23.0	29.0	31.8	31.4	35.4	38.2	36.2	31.8	39.7	45.3
84°	17.5	19.9	25.4	27.8	27.8	31.4	34.2	31.4	26.2	35.0	40.9
84.5°	14.3	16.7	22.3	24.2	24.2	27.4	29.8	26.6	20.7	30.6	37.0
85°	12.7	14.3	19.1	20.7	21.1	23.4	25.8	21.9	17.5	26.2	32.6
85.5°	10.7	12.3	15.9	17.1	17.5	19.5	21.5	18.7	15.1	21.5	28.6
86°	8.7	9.9	13.1	13.5	14.3	15.9	17.9	15.5	12.7	18.3	24.2
86.5°	7.2	7.9	9.9	10.3	11.1	12.3	13.9	12.7	10.7	15.5	20.3
87°	5.2	5.6	7.2	7.2	7.9	8.7	10.3	9.5	8.3	12.7	16.3
87.5°	3.6	3.6	4.0	4.4	4.8	5.6	6.8	6.8	6.4	9.5	12.7
88°	2.0	1.6	1.6	1.2	2.0	2.8	3.6	4.4	4.4	6.8	9.1
88.5°	0.8	0.4	0.4	0.4	0.4	0.8	1.2	2.0	2.0	4.0	5.6



TEST NUMBER: P776322

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.4	0.0



TEST NUMBER: P776322

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1809.0	1809.0	1809.0	1809.0	1809.0	1809.0
0.5°	1811.8	1811.0	1806.6	1802.6	1799.8	1798.3
1°	1814.9	1810.6	1802.2	1795.1	1790.3	1787.9
1.5°	1818.1	1809.8	1797.9	1787.1	1780.4	1777.2
2°	1820.9	1808.6	1792.7	1779.6	1770.0	1766.5
2.5°	1823.3	1807.4	1787.5	1770.8	1759.3	1754.9
3°	1825.7	1805.8	1782.4	1762.5	1749.0	1743.8
3.5°	1827.7	1803.8	1776.8	1753.7	1738.2	1731.9
4°	1829.3	1801.8	1770.8	1745.0	1726.7	1720.0
4.5°	1830.4	1799.4	1764.9	1735.1	1715.2	1707.6
5°	1831.6	1797.1	1758.9	1725.9	1703.3	1695.3
5.5°	1832.4	1793.9	1752.6	1716.0	1691.7	1682.2
6°	1833.2	1791.1	1745.8	1706.1	1679.4	1669.5
6.5°	1833.6	1787.9	1738.6	1695.7	1667.1	1656.8
7°	1833.6	1784.3	1731.5	1686.2	1654.8	1643.3
7.5°	1833.2	1780.8	1724.3	1675.5	1642.1	1629.4
8°	1832.8	1776.8	1716.8	1664.7	1629.0	1616.2
8.5°	1832.0	1772.4	1709.2	1654.0	1615.8	1602.3
9°	1830.8	1768.1	1701.3	1642.9	1602.3	1588.0
9.5°	1829.6	1763.7	1692.9	1631.3	1589.2	1573.7
10°	1828.1	1758.9	1684.6	1619.8	1575.7	1559.4
10.5°	1826.1	1753.7	1676.3	1608.7	1562.2	1544.7
11°	1824.1	1748.6	1667.5	1596.8	1548.3	1530.4
11.5°	1821.7	1743.0	1658.8	1584.8	1534.0	1515.7
12°	1818.9	1737.1	1649.6	1572.9	1520.1	1500.2
12.5°	1816.1	1731.5	1640.5	1560.6	1505.8	1485.5
13°	1813.0	1725.5	1631.3	1548.3	1491.5	1470.8
13.5°	1809.0	1719.2	1621.8	1536.0	1477.2	1455.3
14°	1805.8	1712.8	1612.7	1523.6	1462.4	1440.2
14.5°	1801.8	1706.1	1602.7	1510.9	1447.7	1424.7
15°	1797.5	1698.9	1592.8	1497.8	1433.0	1409.2
15.5°	1793.1	1692.1	1582.9	1485.1	1417.9	1393.7
16°	1788.3	1685.0	1572.9	1472.0	1403.2	1378.2
16.5°	1783.5	1677.4	1562.6	1459.3	1388.5	1363.1
17°	1778.0	1669.9	1552.3	1446.2	1373.4	1347.2
17.5°	1772.4	1661.9	1541.5	1432.6	1358.3	1331.7
18°	1766.9	1654.0	1531.2	1419.1	1343.2	1315.8
18.5°	1760.9	1645.7	1520.1	1406.0	1327.7	1300.3
19°	1754.5	1636.9	1508.9	1392.1	1312.6	1284.4
19.5°	1748.2	1628.6	1497.8	1379.0	1297.9	1268.1
20°	1741.4	1619.4	1486.7	1365.5	1282.4	1252.6
20.5°	1733.9	1610.3	1475.2	1351.6	1267.3	1236.7
21°	1726.7	1600.7	1463.2	1337.7	1251.8	1220.8

TEST NUMBER: P776322

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1702.9	1570.9	1427.5	1296.3	1205.7	1173.1
23°	1694.5	1560.2	1414.8	1282.4	1189.8	1156.8
23.5°	1685.4	1549.1	1402.8	1268.5	1175.1	1141.3
24°	1676.3	1536.8	1390.1	1254.2	1159.6	1125.4
24.5°	1666.7	1525.2	1377.0	1240.3	1144.1	1109.2
25°	1656.8	1512.1	1363.5	1226.0	1128.2	1093.7
25.5°	1646.4	1499.4	1350.4	1211.7	1113.5	1078.2
26°	1635.3	1485.5	1336.5	1197.4	1098.0	1062.7
26.5°	1623.8	1472.0	1322.2	1183.1	1082.5	1047.2
27°	1611.9	1458.5	1307.9	1168.8	1067.4	1031.7
27.5°	1599.2	1443.8	1293.2	1154.1	1052.3	1016.6
28°	1585.6	1428.3	1278.1	1139.4	1036.8	1001.1
28.5°	1572.1	1414.0	1263.3	1125.1	1021.7	986.4
29°	1558.2	1398.5	1248.2	1110.7	1007.0	971.7
29.5°	1543.5	1382.6	1233.1	1096.0	992.3	956.6
30°	1529.2	1366.3	1217.2	1080.9	977.6	942.2
30.5°	1514.1	1349.6	1202.1	1066.2	962.9	927.5
31°	1498.2	1332.5	1185.9	1051.1	948.2	913.2
31.5°	1481.5	1315.0	1170.0	1036.0	933.5	898.9
32°	1464.8	1297.9	1153.7	1021.3	919.6	884.6
32.5°	1447.7	1280.0	1137.8	1005.8	905.3	870.7
33°	1429.9	1261.4	1121.1	990.7	891.0	856.8
33.5°	1412.0	1243.1	1104.4	975.6	877.1	842.9
34°	1392.9	1224.8	1087.7	960.1	863.2	829.4
34.5°	1374.2	1205.7	1071.0	944.6	849.6	815.1
35°	1355.1	1187.0	1053.9	929.1	835.7	801.6
35.5°	1335.7	1167.2	1037.2	914.0	822.2	788.1
36°	1315.8	1148.5	1020.1	899.3	808.3	774.9
36.5°	1295.1	1129.0	1003.0	884.2	795.2	761.4
37°	1274.9	1108.8	986.0	869.1	781.7	747.9
37.5°	1254.2	1089.3	968.9	853.6	768.6	734.4
38°	1233.1	1068.6	951.8	838.5	754.7	720.9
38.5°	1211.7	1048.7	934.3	823.8	741.6	707.8
39°	1190.6	1028.5	917.2	809.1	728.8	695.1
39.5°	1169.2	1008.6	900.1	794.8	715.7	681.5
40°	1147.3	987.9	883.0	779.7	701.8	668.4
40.5°	1125.1	967.7	865.5	765.0	689.1	655.3
41°	1102.8	947.4	848.5	750.7	676.4	642.2
41.5°	1080.9	927.1	831.0	736.0	662.9	629.5
42°	1058.3	907.3	813.9	721.7	650.2	616.4
42.5°	1036.8	887.0	796.8	707.4	637.0	603.7
43°	1014.2	866.7	780.1	693.1	624.7	590.9
43.5°	991.5	846.9	763.0	678.8	611.2	577.8



TEST NUMBER: P776322

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	925.6	788.1	713.3	637.0	573.9	540.1
45.5°	903.7	768.6	696.6	623.5	560.7	527.4
46°	881.4	749.5	681.2	610.0	548.8	515.4
46.5°	860.0	730.4	664.5	596.1	536.1	502.3
47°	838.1	711.8	648.6	582.6	523.8	490.0
47.5°	817.1	693.1	632.7	569.1	511.1	477.7
48°	795.6	674.8	617.6	556.0	499.1	465.8
48.5°	774.9	656.5	602.1	542.9	486.8	453.0
49°	753.9	639.0	586.6	529.7	474.5	441.1
49.5°	733.6	621.5	571.5	516.6	462.2	429.2
50°	712.9	603.7	557.2	503.5	450.3	416.9
50.5°	693.1	587.0	542.1	490.8	438.3	404.6
51°	673.6	570.3	527.8	478.1	426.0	393.0
51.5°	654.5	554.0	513.4	465.8	414.1	381.1
52°	635.1	538.1	499.5	453.0	402.6	369.6
52.5°	615.6	522.2	485.6	441.1	391.0	358.1
53°	596.9	507.1	472.5	428.8	379.1	347.3
53.5°	579.0	492.4	458.6	416.9	367.2	337.0
54°	560.7	477.7	445.5	405.0	356.1	330.6
54.5°	543.6	463.8	433.2	393.4	344.9	326.3
55°	527.0	450.3	420.5	381.9	334.2	321.5
55.5°	510.3	436.7	408.5	370.8	323.5	317.1
56°	494.4	424.0	396.2	359.7	313.6	312.0
56.5°	478.9	411.3	384.7	348.5	308.0	306.8
57°	464.2	399.0	373.2	337.8	303.6	302.0
57.5°	449.5	387.1	362.4	327.1	298.8	296.5
58°	435.6	375.5	351.7	316.7	294.1	291.3
58.5°	422.0	364.4	341.0	306.8	288.9	285.3
59°	408.5	353.7	330.6	296.9	283.7	279.0
59.5°	395.8	343.0	320.7	286.9	279.0	273.0
60°	383.5	332.2	310.8	277.4	273.4	266.7
60.5°	371.6	322.3	301.2	268.2	267.9	259.9
61°	360.0	312.4	291.7	259.1	262.3	253.5
61.5°	348.5	303.2	283.0	250.8	256.3	247.2
62°	338.2	293.7	274.2	242.4	250.0	240.4
62.5°	327.9	284.5	265.9	234.5	244.0	234.1
63°	317.5	275.8	257.1	227.3	238.0	227.7
63.5°	307.2	267.1	249.2	221.8	232.1	221.4
64°	296.9	258.3	240.8	217.4	225.7	214.6
64.5°	286.9	250.4	233.3	213.0	219.8	208.2
65°	277.8	242.4	225.7	208.6	213.8	201.9
65.5°	268.6	234.9	218.6	203.9	207.8	195.5
66°	259.9	226.9	211.4	199.1	201.5	189.2



TEST NUMBER: P776322

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	234.9	205.5	191.2	184.8	183.6	172.5
68°	226.5	198.3	184.8	179.6	177.6	166.9
68.5°	219.0	191.5	178.8	174.9	172.1	161.7
69°	211.4	184.8	172.5	169.7	166.5	156.6
69.5°	203.9	178.4	166.5	164.5	160.9	151.4
70°	196.7	172.1	160.9	159.4	155.8	146.2
70.5°	189.6	166.1	155.4	154.2	150.6	141.5
71°	182.8	159.8	149.4	149.0	145.4	136.7
71.5°	175.7	153.8	144.7	143.9	140.7	131.9
72°	169.3	147.8	139.5	139.1	135.5	126.8
72.5°	162.5	143.1	134.3	133.9	130.7	122.0
73°	156.2	137.5	129.6	129.2	125.6	117.2
73.5°	149.8	131.9	124.4	124.0	120.8	112.1
74°	143.9	126.0	119.6	119.2	115.6	107.3
74.5°	137.5	120.4	114.8	114.5	110.9	102.5
75°	131.5	115.2	110.5	109.7	105.7	97.8
75.5°	126.0	110.1	106.1	105.3	100.9	93.0
76°	120.0	104.9	102.1	100.5	95.8	88.2
76.5°	114.5	100.1	98.2	95.8	91.0	83.5
77°	108.9	95.0	94.2	91.4	86.2	79.1
77.5°	103.3	90.2	90.2	86.6	81.5	74.3
78°	98.2	85.4	85.8	82.3	76.7	69.9
78.5°	92.6	81.1	81.9	77.9	71.9	65.2
79°	87.4	76.3	77.5	73.5	67.2	60.8
79.5°	82.3	71.9	73.5	69.1	62.4	56.0
80°	77.1	67.6	69.1	64.8	57.6	51.7
80.5°	72.3	63.2	65.2	60.4	53.3	47.3
81°	67.6	58.8	60.8	56.4	48.5	42.9
81.5°	62.8	54.8	56.8	52.1	44.1	38.5
82°	58.0	50.9	52.9	48.1	40.1	34.2
82.5°	53.6	46.9	48.9	44.1	35.8	29.8
83°	49.3	42.9	44.9	40.5	31.8	25.8
83.5°	44.9	38.9	40.9	36.6	27.8	21.5
84°	40.5	35.4	37.4	33.0	24.2	17.5
84.5°	36.6	31.4	33.4	29.4	21.1	14.3
85°	32.6	27.8	29.4	25.8	17.9	12.7
85.5°	28.6	24.2	25.8	22.3	15.5	10.7
86°	24.6	21.1	21.9	19.1	13.1	8.7
86.5°	20.3	17.5	18.3	15.5	10.7	7.2
87°	16.7	14.3	14.7	12.3	8.3	5.2
87.5°	13.1	11.1	11.1	9.5	6.0	3.6
88°	9.5	7.9	7.9	6.4	4.0	2.0
88.5°	6.0	4.8	4.8	3.2	2.0	0.8



TEST NUMBER: P776322

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.4	0.0

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

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

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Peachtree City, GA 30269

Scaled Data Report





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

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Peachtree City, GA 30269

Scaled Data Report



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Scaled Data Report





21.5°	1204.5	1233.5	1321.4	1451.7	1605.5	1734.7	1829.3	1885.3	1903.2	1875.3	1813.0
22°	1189.0	1218.0	1307.1	1439.4	1595.2	1726.7	1822.9	1879.7	1897.6	1869.4	1806.6



44°	565.5	589.0	648.6	733.2	833.0	970.5	1090.9	1021.3	964.5	1024.1	1093.7
44.5°	552.8	576.2	634.7	716.1	812.7	948.2	1064.6	998.7	940.7	1002.3	1067.4



66.5°	183.6	187.6	184.0	186.0	203.9	230.1	267.1	277.0	275.8	286.1	283.7
67°	177.6	181.2	178.8	179.6	196.7	222.1	257.9	267.9	267.1	277.4	273.8



89°	0.0	0.4	0.0	0.0	0.0	0.0	0.4	0.4	0.4	1.6	2.4
89.5°	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.4	0.8

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21.5°	1719.2	1591.2	1451.3	1324.2	1236.3	1204.5
22°	1711.2	1580.9	1439.4	1310.2	1220.8	1189.0



44°	969.3	827.4	746.3	664.9	599.3	565.5
44.5°	947.8	807.5	729.6	650.9	586.2	552.8



66.5°	251.2	219.8	204.7	194.7	195.5	183.6
67°	242.8	212.2	197.9	190.0	189.6	177.6

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Scaled Data Report



89°	2.8	1.6	1.6	1.2	0.4	0.0
89.5°	0.8	0.4	0.4	0.4	0.4	0.0

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Scaled Data Report



(END OF REPORT)