

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: P776527

Luminaire Tested: HCDJBS3040CSD-HCD8TSQMB-4000lm-3500K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776527
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B024-HCD8TSQMB)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD8TSQMB-4000lm-3500K
Description: 8 INCH SQUARE MEDIUM MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

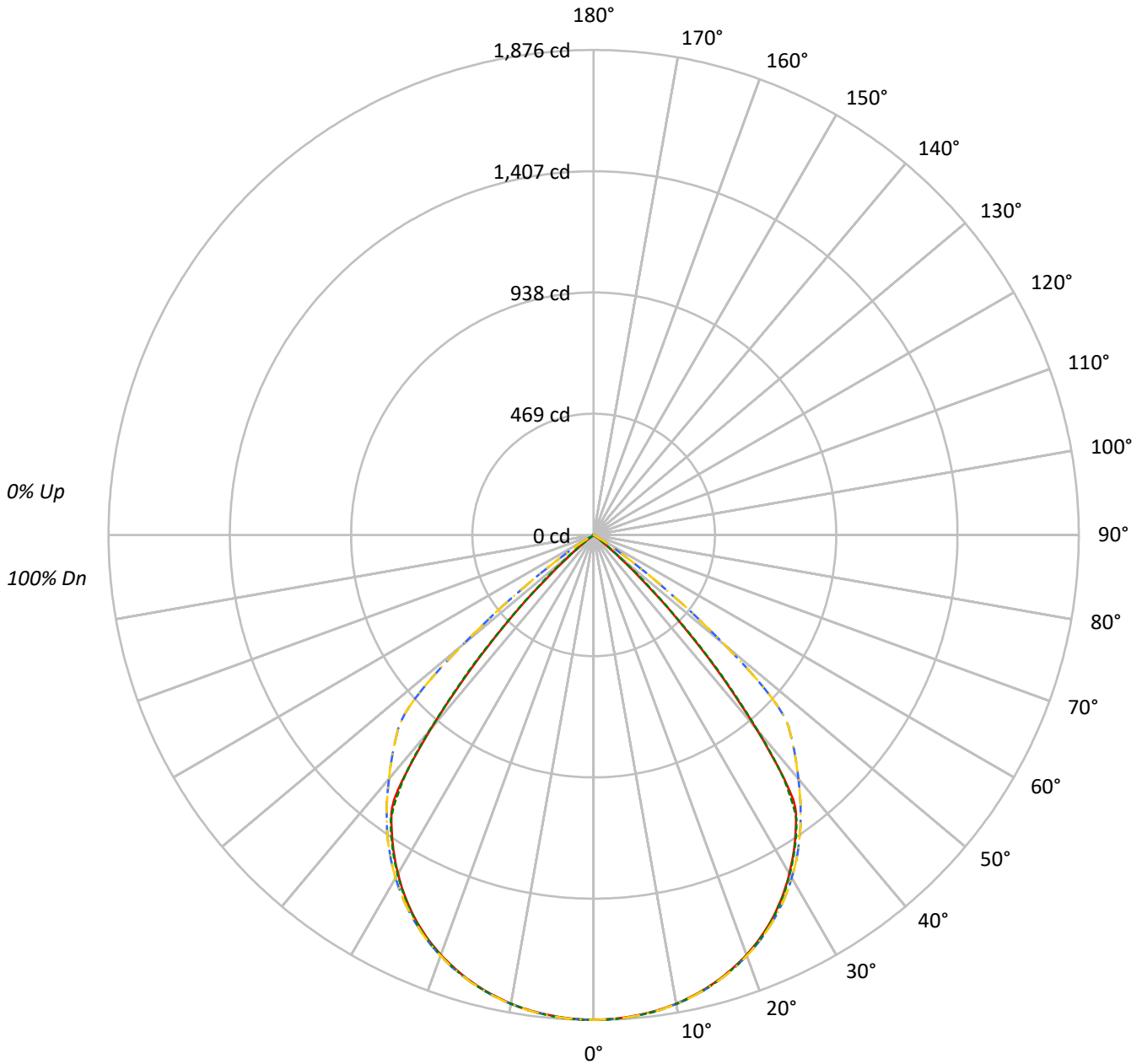
Lumens per Lamp: N/A
Luminaire Lumens: 2915.0 lumens
Efficiency: N/A
Efficacy: 75.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.2 / 1.28
Luminous Opening: Rectangular (W 0.67' x L: 0.67' x H: 0')
CIE Type: Direct

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



TEST NUMBER: P776527
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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					100			
1	113	110	107	104	110	107	105	103	103	101	100	100	98	97	96	95	94	92					92			
2	106	101	96	92	104	99	95	91	96	92	89	92	90	87	90	87	85	84					84			
3	100	92	87	82	98	91	86	81	88	84	80	86	82	79	83	80	77	76					76			
4	93	85	78	73	91	84	78	73	81	76	72	79	75	71	77	74	70	69					69			
5	88	78	71	66	86	77	71	66	75	70	65	73	68	65	72	67	64	62					62			
6	82	72	65	60	81	71	64	60	69	64	59	68	63	59	67	62	58	57					57			
7	77	66	59	55	76	66	59	54	64	58	54	63	58	54	62	57	53	52					52			
8	72	62	55	50	71	61	54	50	60	54	50	59	53	49	58	53	49	47					47			
9	68	57	50	46	67	57	50	46	56	50	45	55	49	45	54	49	45	44					44			
10	64	53	47	42	63	53	46	42	52	46	42	51	46	42	50	45	42	40					40			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	44979	44979	44979	44979
5°	44932	44960	44932	44960
10°	44823	44852	44823	44852
15°	44565	44604	44565	44604
20°	44104	44145	44104	44145
25°	43281	43332	43281	43332
30°	41895	41983	41895	41983
35°	39919	40033	39919	40033
40°	30597	30857	30597	30857
45°	15172	15562	15172	15562
50°	3335	4062	3335	4062
55°	50	67	50	67
60°	38	58	38	58
65°	45	45	45	45
70°	28	28	28	28
75°	37	37	37	37
80°	0	0	0	0
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 36339 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.5	6.1
10°-20°	506.7	17.4
20°-30°	754.4	25.9
30°-40°	853.4	29.3
40°-50°	544.6	18.7
50°-60°	77.3	2.7
60°-70°	0.8	0.0
70°-80°	0.3	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°	1438.6	49.4
0°-40°	2292.0	78.6
0°-60°	2913.9	100.0
0°-90°	2915.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2915.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1876	1876	1876	1876	1876	
5°	1867	1868	1867	1868	1867	177
15°	1795	1797	1795	1797	1795	506
25°	1636	1638	1636	1638	1636	752
35°	1364	1368	1364	1368	1364	828
45°	447	459	447	459	447	357
55°	1	2	1	2	1	11
65°	1	1	1	1	1	1
75°	0	0	0	0	0	0
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°	1875.8	1875.8	1875.8	1875.8	1875.8	1875.8	1875.8	1875.8	1875.8	1875.8	1875.8
0.5°	1875.1	1875.4	1875.8	1876.2	1876.2	1876.2	1875.8	1875.4	1875.1	1875.4	1875.8
1°	1874.7	1875.1	1875.4	1875.8	1875.8	1875.8	1875.4	1875.1	1874.7	1875.1	1875.4
1.5°	1874.3	1874.7	1875.1	1875.4	1875.4	1875.4	1875.1	1874.7	1874.3	1874.7	1875.1
2°	1873.9	1873.9	1874.7	1875.1	1874.7	1875.1	1874.7	1873.9	1873.9	1873.9	1874.7
2.5°	1873.1	1873.5	1873.9	1874.3	1874.3	1874.3	1873.9	1873.5	1873.1	1873.5	1873.9
3°	1872.3	1872.3	1873.1	1873.5	1873.1	1873.5	1873.1	1872.3	1872.3	1872.3	1873.1
3.5°	1871.1	1871.5	1871.9	1872.3	1872.3	1872.3	1871.9	1871.5	1871.1	1871.5	1871.9
4°	1869.9	1870.3	1870.7	1871.1	1870.7	1871.1	1870.7	1870.3	1869.9	1870.3	1870.7
4.5°	1868.3	1868.7	1869.1	1869.5	1869.5	1869.5	1869.1	1868.7	1868.3	1868.7	1869.1
5°	1866.7	1867.1	1867.9	1867.9	1867.9	1867.9	1867.9	1867.1	1866.7	1867.1	1867.9
5.5°	1865.1	1865.5	1865.9	1866.3	1865.9	1866.3	1865.9	1865.5	1865.1	1865.5	1865.9
6°	1863.1	1863.5	1863.9	1864.3	1864.3	1864.3	1863.9	1863.5	1863.1	1863.5	1863.9
6.5°	1861.1	1861.5	1861.9	1862.3	1861.9	1862.3	1861.9	1861.5	1861.1	1861.5	1861.9
7°	1858.8	1859.2	1860.0	1860.0	1860.0	1860.0	1860.0	1859.2	1858.8	1859.2	1860.0
7.5°	1856.4	1856.8	1857.2	1857.6	1857.2	1857.6	1857.2	1856.8	1856.4	1856.8	1857.2
8°	1853.6	1854.0	1854.8	1854.8	1854.8	1854.8	1854.8	1854.0	1853.6	1854.0	1854.8
8.5°	1850.8	1851.2	1852.0	1852.0	1851.6	1852.0	1852.0	1851.2	1850.8	1851.2	1852.0
9°	1847.6	1848.0	1848.8	1849.2	1848.8	1849.2	1848.8	1848.0	1847.6	1848.0	1848.8
9.5°	1844.5	1844.9	1845.6	1846.0	1845.3	1846.0	1845.6	1844.9	1844.5	1844.9	1845.6
10°	1840.9	1841.7	1842.5	1842.5	1842.1	1842.5	1842.5	1841.7	1840.9	1841.7	1842.5
10.5°	1837.3	1838.1	1838.9	1838.9	1838.5	1838.9	1838.9	1838.1	1837.3	1838.1	1838.9
11°	1833.3	1834.1	1835.3	1834.9	1834.5	1834.9	1835.3	1834.1	1833.3	1834.1	1835.3
11.5°	1829.4	1830.2	1831.3	1830.9	1830.6	1830.9	1831.3	1830.2	1829.4	1830.2	1831.3
12°	1825.0	1825.8	1827.0	1827.0	1826.2	1827.0	1827.0	1825.8	1825.0	1825.8	1827.0
12.5°	1820.6	1821.4	1822.6	1822.6	1821.8	1822.6	1822.6	1821.4	1820.6	1821.4	1822.6
13°	1815.8	1817.0	1818.2	1818.2	1817.4	1818.2	1818.2	1817.0	1815.8	1817.0	1818.2
13.5°	1811.1	1812.3	1813.5	1813.5	1812.7	1813.5	1813.5	1812.3	1811.1	1812.3	1813.5
14°	1805.9	1807.1	1808.3	1808.3	1807.5	1808.3	1808.3	1807.1	1805.9	1807.1	1808.3
14.5°	1800.7	1801.9	1803.1	1803.1	1802.3	1803.1	1803.1	1801.9	1800.7	1801.9	1803.1
15°	1795.2	1796.4	1798.0	1797.6	1796.8	1797.6	1798.0	1796.4	1795.2	1796.4	1798.0
15.5°	1789.6	1790.8	1792.4	1792.0	1791.2	1792.0	1792.4	1790.8	1789.6	1790.8	1792.4
16°	1783.7	1784.9	1786.4	1786.4	1785.3	1786.4	1786.4	1784.9	1783.7	1784.9	1786.4
16.5°	1777.7	1778.9	1780.5	1780.5	1779.3	1780.5	1780.5	1778.9	1777.7	1778.9	1780.5
17°	1770.9	1772.5	1774.5	1774.1	1772.9	1774.1	1774.5	1772.5	1770.9	1772.5	1774.5
17.5°	1764.6	1766.2	1767.8	1767.8	1766.6	1767.8	1767.8	1766.2	1764.6	1766.2	1767.8
18°	1757.8	1759.4	1761.4	1761.0	1759.4	1761.0	1761.4	1759.4	1757.8	1759.4	1761.4
18.5°	1750.7	1752.7	1754.3	1753.9	1752.3	1753.9	1754.3	1752.7	1750.7	1752.7	1754.3
19°	1743.5	1745.5	1747.1	1746.7	1745.1	1746.7	1747.1	1745.5	1743.5	1745.5	1747.1
19.5°	1736.0	1738.0	1740.0	1739.6	1738.0	1739.6	1740.0	1738.0	1736.0	1738.0	1740.0
20°	1728.4	1730.4	1732.4	1732.0	1730.0	1732.0	1732.4	1730.4	1728.4	1730.4	1732.4
20.5°	1720.1	1722.5	1724.9	1724.1	1722.1	1724.1	1724.9	1722.5	1720.1	1722.5	1724.9
21°	1711.7	1714.5	1716.9	1716.1	1713.7	1716.1	1716.9	1714.5	1711.7	1714.5	1716.9



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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°	1685.5	1688.7	1691.5	1690.3	1687.5	1690.3	1691.5	1688.7	1685.5	1688.7	1691.5
23°	1676.0	1679.6	1682.7	1681.1	1678.0	1681.1	1682.7	1679.6	1676.0	1679.6	1682.7
23.5°	1666.4	1670.4	1673.6	1671.6	1668.4	1671.6	1673.6	1670.4	1666.4	1670.4	1673.6
24°	1656.9	1660.5	1664.1	1662.1	1658.5	1662.1	1664.1	1660.5	1656.9	1660.5	1664.1
24.5°	1646.6	1650.6	1654.5	1652.1	1648.6	1652.1	1654.5	1650.6	1646.6	1650.6	1654.5
25°	1635.9	1640.6	1644.6	1641.8	1637.8	1641.8	1644.6	1640.6	1635.9	1640.6	1644.6
25.5°	1624.7	1630.3	1634.7	1631.5	1627.1	1631.5	1634.7	1630.3	1624.7	1630.3	1634.7
26°	1614.0	1619.6	1624.3	1620.8	1616.4	1620.8	1624.3	1619.6	1614.0	1619.6	1624.3
26.5°	1602.1	1608.4	1613.6	1609.6	1604.9	1609.6	1613.6	1608.4	1602.1	1608.4	1613.6
27°	1590.6	1596.9	1602.9	1598.1	1592.9	1598.1	1602.9	1596.9	1590.6	1596.9	1602.9
27.5°	1578.6	1585.4	1591.7	1586.6	1581.0	1586.6	1591.7	1585.4	1578.6	1585.4	1591.7
28°	1565.9	1573.5	1580.2	1574.7	1568.7	1574.7	1580.2	1573.5	1565.9	1573.5	1580.2
28.5°	1553.2	1561.2	1568.7	1562.7	1556.0	1562.7	1568.7	1561.2	1553.2	1561.2	1568.7
29°	1540.1	1548.4	1556.8	1550.0	1543.3	1550.0	1556.8	1548.4	1540.1	1548.4	1556.8
29.5°	1527.0	1535.7	1544.5	1537.3	1529.8	1537.3	1544.5	1535.7	1527.0	1535.7	1544.5
30°	1513.1	1522.6	1532.1	1524.6	1516.3	1524.6	1532.1	1522.6	1513.1	1522.6	1532.1
30.5°	1499.2	1509.5	1519.4	1511.1	1502.7	1511.1	1519.4	1509.5	1499.2	1509.5	1519.4
31°	1485.3	1495.6	1506.3	1497.6	1488.8	1497.6	1506.3	1495.6	1485.3	1495.6	1506.3
31.5°	1471.0	1482.1	1493.2	1484.1	1474.1	1484.1	1493.2	1482.1	1471.0	1482.1	1493.2
32°	1456.7	1468.2	1479.7	1470.2	1459.8	1470.2	1479.7	1468.2	1456.7	1468.2	1479.7
32.5°	1442.0	1453.9	1465.8	1455.9	1445.1	1455.9	1465.8	1453.9	1442.0	1453.9	1465.8
33°	1426.9	1439.6	1451.9	1441.6	1430.4	1441.6	1451.9	1439.6	1426.9	1439.6	1451.9
33.5°	1411.4	1424.9	1437.2	1427.2	1415.3	1427.2	1437.2	1424.9	1411.4	1424.9	1437.2
34°	1395.5	1410.6	1422.5	1412.5	1399.8	1412.5	1422.5	1410.6	1395.5	1410.6	1422.5
34.5°	1379.6	1395.5	1407.8	1397.4	1383.9	1397.4	1407.8	1395.5	1379.6	1395.5	1407.8
35°	1363.7	1380.4	1392.3	1382.3	1367.6	1382.3	1392.3	1380.4	1363.7	1380.4	1392.3
35.5°	1347.0	1365.3	1377.2	1367.3	1351.0	1367.3	1377.2	1365.3	1347.0	1365.3	1377.2
36°	1330.3	1349.8	1361.7	1351.8	1324.3	1351.8	1361.7	1349.8	1330.3	1349.8	1361.7
36.5°	1310.4	1333.5	1345.8	1335.9	1294.9	1335.9	1345.8	1333.5	1310.4	1333.5	1345.8
37°	1283.0	1317.2	1329.9	1320.0	1260.4	1320.0	1329.9	1317.2	1283.0	1317.2	1329.9
37.5°	1241.3	1300.9	1313.6	1303.3	1227.0	1303.3	1313.6	1300.9	1241.3	1300.9	1313.6
38°	1196.0	1284.6	1297.3	1284.6	1188.8	1284.6	1297.3	1284.6	1196.0	1284.6	1297.3
38.5°	1142.4	1267.1	1281.0	1258.0	1145.1	1258.0	1281.0	1267.1	1142.4	1267.1	1281.0
39°	1087.9	1244.1	1265.1	1227.0	1096.3	1227.0	1265.1	1244.1	1087.9	1244.1	1265.1
39.5°	1032.7	1212.7	1248.4	1194.8	1041.8	1194.8	1248.4	1212.7	1032.7	1212.7	1248.4
40°	977.5	1172.2	1231.8	1159.8	985.8	1159.8	1231.8	1172.2	977.5	1172.2	1231.8
40.5°	921.8	1124.9	1215.9	1120.5	928.6	1120.5	1215.9	1124.9	921.8	1124.9	1215.9
41°	865.4	1073.6	1199.6	1076.8	873.8	1076.8	1199.6	1073.6	865.4	1073.6	1199.6
41.5°	811.0	1022.0	1183.7	1028.7	819.7	1028.7	1183.7	1022.0	811.0	1022.0	1183.7
42°	755.7	969.9	1167.8	976.7	766.9	976.7	1167.8	969.9	755.7	969.9	1167.8
42.5°	702.5	918.3	1151.9	923.8	714.4	923.8	1151.9	918.3	702.5	918.3	1151.9
43°	649.3	865.4	1136.0	870.2	661.2	870.2	1136.0	865.4	649.3	865.4	1136.0
43.5°	597.2	812.6	1119.7	818.5	608.3	818.5	1119.7	812.6	597.2	812.6	1119.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	447.4	657.6	1071.6	667.5	458.9	667.5	1071.6	657.6	447.4	657.6	1071.6
45.5°	400.1	607.9	1055.3	617.1	412.8	617.1	1055.3	607.9	400.1	607.9	1055.3
46°	355.6	559.1	1034.3	568.2	368.7	568.2	1034.3	559.1	355.6	559.1	1034.3
46.5°	312.3	510.6	1009.6	520.1	325.8	520.1	1009.6	510.6	312.3	510.6	1009.6
47°	269.4	462.9	975.1	472.8	288.1	472.8	975.1	462.9	269.4	462.9	975.1
47.5°	228.5	416.4	936.5	427.1	255.9	427.1	936.5	416.4	228.5	416.4	936.5
48°	192.7	372.7	890.0	383.0	224.1	383.0	890.0	372.7	192.7	372.7	890.0
48.5°	160.1	330.6	839.2	340.9	192.3	340.9	839.2	330.6	160.1	330.6	839.2
49°	135.1	288.9	781.6	300.8	160.5	300.8	781.6	288.9	135.1	288.9	781.6
49.5°	111.7	248.3	723.2	263.4	132.3	263.4	723.2	248.3	111.7	248.3	723.2
50°	89.4	210.2	662.8	230.9	108.9	230.9	662.8	210.2	89.4	210.2	662.8
50.5°	71.1	176.0	603.6	200.3	85.8	200.3	603.6	176.0	71.1	176.0	603.6
51°	53.2	147.0	545.9	170.9	65.2	170.9	545.9	147.0	53.2	147.0	545.9
51.5°	38.1	122.8	492.3	143.4	51.3	143.4	492.3	122.8	38.1	122.8	492.3
52°	23.0	99.7	439.9	118.4	40.9	118.4	439.9	99.7	23.0	99.7	439.9
52.5°	8.3	80.3	389.4	95.8	30.6	95.8	389.4	80.3	8.3	80.3	389.4
53°	4.8	62.4	341.3	76.3	20.7	76.3	341.3	62.4	4.8	62.4	341.3
53.5°	3.6	46.1	298.8	58.0	11.9	58.0	298.8	46.1	3.6	46.1	298.8
54°	2.4	31.8	258.7	42.5	3.2	42.5	258.7	31.8	2.4	31.8	258.7
54.5°	1.2	17.5	221.3	31.8	1.6	31.8	221.3	17.5	1.2	17.5	221.3
55°	1.2	6.0	187.5	21.5	1.6	21.5	187.5	6.0	1.2	6.0	187.5
55.5°	1.2	3.6	155.4	13.1	1.6	13.1	155.4	3.6	1.2	3.6	155.4
56°	1.2	2.8	127.1	7.9	1.2	7.9	127.1	2.8	1.2	2.8	127.1
56.5°	1.2	1.6	104.9	3.2	1.2	3.2	104.9	1.6	1.2	1.6	104.9
57°	1.2	1.2	83.8	2.0	1.2	2.0	83.8	1.2	1.2	1.2	83.8
57.5°	1.2	1.2	65.2	1.2	1.2	1.2	65.2	1.2	1.2	1.2	65.2
58°	1.2	1.2	48.5	1.2	1.2	1.2	48.5	1.2	1.2	1.2	48.5
58.5°	0.8	0.8	35.0	1.2	1.2	1.2	35.0	0.8	0.8	0.8	35.0
59°	0.8	0.8	26.6	0.8	1.2	0.8	26.6	0.8	0.8	0.8	26.6
59.5°	0.8	0.8	19.5	0.8	1.2	0.8	19.5	0.8	0.8	0.8	19.5
60°	0.8	0.8	12.7	0.8	1.2	0.8	12.7	0.8	0.8	0.8	12.7
60.5°	0.8	0.8	7.5	0.8	0.8	0.8	7.5	0.8	0.8	0.8	7.5
61°	0.8	0.8	4.8	0.8	0.8	0.8	4.8	0.8	0.8	0.8	4.8
61.5°	0.8	0.8	2.8	0.8	0.8	0.8	2.8	0.8	0.8	0.8	2.8
62°	0.8	0.8	1.2	0.8	0.8	0.8	1.2	0.8	0.8	0.8	1.2
62.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
63°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
63.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
64°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
64.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
65°	0.8	0.8	0.4	0.8	0.8	0.8	0.4	0.8	0.8	0.8	0.4
65.5°	0.4	0.4	0.4	0.4	0.8	0.4	0.4	0.4	0.4	0.4	0.4
66°	0.4	0.4	0.4	0.4	0.8	0.4	0.4	0.4	0.4	0.4	0.4



TEST NUMBER: P776527

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
68°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
68.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
69°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
69.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
70°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
70.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
71°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
71.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
72°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
72.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
73°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
73.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
74°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
74.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
75°	0.4	0.4	0.4	0.4	0.4	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	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	0.0	0.4	0.4	0.4	0.0	0.4	0.4	0.4	0.0
77°	0.4	0.4	0.0	0.4	0.4	0.4	0.0	0.4	0.4	0.4	0.0
77.5°	0.0	0.4	0.0	0.4	0.4	0.4	0.0	0.4	0.0	0.4	0.0
78°	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	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	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: P776527
CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMB-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: P776527

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1875.8	1875.8	1875.8	1875.8	1875.8	1875.8
0.5°	1876.2	1876.2	1876.2	1875.8	1875.4	1875.1
1°	1875.8	1875.8	1875.8	1875.4	1875.1	1874.7
1.5°	1875.4	1875.4	1875.4	1875.1	1874.7	1874.3
2°	1875.1	1874.7	1875.1	1874.7	1873.9	1873.9
2.5°	1874.3	1874.3	1874.3	1873.9	1873.5	1873.1
3°	1873.5	1873.1	1873.5	1873.1	1872.3	1872.3
3.5°	1872.3	1872.3	1872.3	1871.9	1871.5	1871.1
4°	1871.1	1870.7	1871.1	1870.7	1870.3	1869.9
4.5°	1869.5	1869.5	1869.5	1869.1	1868.7	1868.3
5°	1867.9	1867.9	1867.9	1867.9	1867.1	1866.7
5.5°	1866.3	1865.9	1866.3	1865.9	1865.5	1865.1
6°	1864.3	1864.3	1864.3	1863.9	1863.5	1863.1
6.5°	1862.3	1861.9	1862.3	1861.9	1861.5	1861.1
7°	1860.0	1860.0	1860.0	1860.0	1859.2	1858.8
7.5°	1857.6	1857.2	1857.6	1857.2	1856.8	1856.4
8°	1854.8	1854.8	1854.8	1854.8	1854.0	1853.6
8.5°	1852.0	1851.6	1852.0	1852.0	1851.2	1850.8
9°	1849.2	1848.8	1849.2	1848.8	1848.0	1847.6
9.5°	1846.0	1845.3	1846.0	1845.6	1844.9	1844.5
10°	1842.5	1842.1	1842.5	1842.5	1841.7	1840.9
10.5°	1838.9	1838.5	1838.9	1838.9	1838.1	1837.3
11°	1834.9	1834.5	1834.9	1835.3	1834.1	1833.3
11.5°	1830.9	1830.6	1830.9	1831.3	1830.2	1829.4
12°	1827.0	1826.2	1827.0	1827.0	1825.8	1825.0
12.5°	1822.6	1821.8	1822.6	1822.6	1821.4	1820.6
13°	1818.2	1817.4	1818.2	1818.2	1817.0	1815.8
13.5°	1813.5	1812.7	1813.5	1813.5	1812.3	1811.1
14°	1808.3	1807.5	1808.3	1808.3	1807.1	1805.9
14.5°	1803.1	1802.3	1803.1	1803.1	1801.9	1800.7
15°	1797.6	1796.8	1797.6	1798.0	1796.4	1795.2
15.5°	1792.0	1791.2	1792.0	1792.4	1790.8	1789.6
16°	1786.4	1785.3	1786.4	1786.4	1784.9	1783.7
16.5°	1780.5	1779.3	1780.5	1780.5	1778.9	1777.7
17°	1774.1	1772.9	1774.1	1774.5	1772.5	1770.9
17.5°	1767.8	1766.6	1767.8	1767.8	1766.2	1764.6
18°	1761.0	1759.4	1761.0	1761.4	1759.4	1757.8
18.5°	1753.9	1752.3	1753.9	1754.3	1752.7	1750.7
19°	1746.7	1745.1	1746.7	1747.1	1745.5	1743.5
19.5°	1739.6	1738.0	1739.6	1740.0	1738.0	1736.0
20°	1732.0	1730.0	1732.0	1732.4	1730.4	1728.4
20.5°	1724.1	1722.1	1724.1	1724.9	1722.5	1720.1
21°	1716.1	1713.7	1716.1	1716.9	1714.5	1711.7

TEST NUMBER: P776527

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1690.3	1687.5	1690.3	1691.5	1688.7	1685.5
23°	1681.1	1678.0	1681.1	1682.7	1679.6	1676.0
23.5°	1671.6	1668.4	1671.6	1673.6	1670.4	1666.4
24°	1662.1	1658.5	1662.1	1664.1	1660.5	1656.9
24.5°	1652.1	1648.6	1652.1	1654.5	1650.6	1646.6
25°	1641.8	1637.8	1641.8	1644.6	1640.6	1635.9
25.5°	1631.5	1627.1	1631.5	1634.7	1630.3	1624.7
26°	1620.8	1616.4	1620.8	1624.3	1619.6	1614.0
26.5°	1609.6	1604.9	1609.6	1613.6	1608.4	1602.1
27°	1598.1	1592.9	1598.1	1602.9	1596.9	1590.6
27.5°	1586.6	1581.0	1586.6	1591.7	1585.4	1578.6
28°	1574.7	1568.7	1574.7	1580.2	1573.5	1565.9
28.5°	1562.7	1556.0	1562.7	1568.7	1561.2	1553.2
29°	1550.0	1543.3	1550.0	1556.8	1548.4	1540.1
29.5°	1537.3	1529.8	1537.3	1544.5	1535.7	1527.0
30°	1524.6	1516.3	1524.6	1532.1	1522.6	1513.1
30.5°	1511.1	1502.7	1511.1	1519.4	1509.5	1499.2
31°	1497.6	1488.8	1497.6	1506.3	1495.6	1485.3
31.5°	1484.1	1474.1	1484.1	1493.2	1482.1	1471.0
32°	1470.2	1459.8	1470.2	1479.7	1468.2	1456.7
32.5°	1455.9	1445.1	1455.9	1465.8	1453.9	1442.0
33°	1441.6	1430.4	1441.6	1451.9	1439.6	1426.9
33.5°	1427.2	1415.3	1427.2	1437.2	1424.9	1411.4
34°	1412.5	1399.8	1412.5	1422.5	1410.6	1395.5
34.5°	1397.4	1383.9	1397.4	1407.8	1395.5	1379.6
35°	1382.3	1367.6	1382.3	1392.3	1380.4	1363.7
35.5°	1367.3	1351.0	1367.3	1377.2	1365.3	1347.0
36°	1351.8	1324.3	1351.8	1361.7	1349.8	1330.3
36.5°	1335.9	1294.9	1335.9	1345.8	1333.5	1310.4
37°	1320.0	1260.4	1320.0	1329.9	1317.2	1283.0
37.5°	1303.3	1227.0	1303.3	1313.6	1300.9	1241.3
38°	1284.6	1188.8	1284.6	1297.3	1284.6	1196.0
38.5°	1258.0	1145.1	1258.0	1281.0	1267.1	1142.4
39°	1227.0	1096.3	1227.0	1265.1	1244.1	1087.9
39.5°	1194.8	1041.8	1194.8	1248.4	1212.7	1032.7
40°	1159.8	985.8	1159.8	1231.8	1172.2	977.5
40.5°	1120.5	928.6	1120.5	1215.9	1124.9	921.8
41°	1076.8	873.8	1076.8	1199.6	1073.6	865.4
41.5°	1028.7	819.7	1028.7	1183.7	1022.0	811.0
42°	976.7	766.9	976.7	1167.8	969.9	755.7
42.5°	923.8	714.4	923.8	1151.9	918.3	702.5
43°	870.2	661.2	870.2	1136.0	865.4	649.3
43.5°	818.5	608.3	818.5	1119.7	812.6	597.2



TEST NUMBER: P776527

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	667.5	458.9	667.5	1071.6	657.6	447.4
45.5°	617.1	412.8	617.1	1055.3	607.9	400.1
46°	568.2	368.7	568.2	1034.3	559.1	355.6
46.5°	520.1	325.8	520.1	1009.6	510.6	312.3
47°	472.8	288.1	472.8	975.1	462.9	269.4
47.5°	427.1	255.9	427.1	936.5	416.4	228.5
48°	383.0	224.1	383.0	890.0	372.7	192.7
48.5°	340.9	192.3	340.9	839.2	330.6	160.1
49°	300.8	160.5	300.8	781.6	288.9	135.1
49.5°	263.4	132.3	263.4	723.2	248.3	111.7
50°	230.9	108.9	230.9	662.8	210.2	89.4
50.5°	200.3	85.8	200.3	603.6	176.0	71.1
51°	170.9	65.2	170.9	545.9	147.0	53.2
51.5°	143.4	51.3	143.4	492.3	122.8	38.1
52°	118.4	40.9	118.4	439.9	99.7	23.0
52.5°	95.8	30.6	95.8	389.4	80.3	8.3
53°	76.3	20.7	76.3	341.3	62.4	4.8
53.5°	58.0	11.9	58.0	298.8	46.1	3.6
54°	42.5	3.2	42.5	258.7	31.8	2.4
54.5°	31.8	1.6	31.8	221.3	17.5	1.2
55°	21.5	1.6	21.5	187.5	6.0	1.2
55.5°	13.1	1.6	13.1	155.4	3.6	1.2
56°	7.9	1.2	7.9	127.1	2.8	1.2
56.5°	3.2	1.2	3.2	104.9	1.6	1.2
57°	2.0	1.2	2.0	83.8	1.2	1.2
57.5°	1.2	1.2	1.2	65.2	1.2	1.2
58°	1.2	1.2	1.2	48.5	1.2	1.2
58.5°	1.2	1.2	1.2	35.0	0.8	0.8
59°	0.8	1.2	0.8	26.6	0.8	0.8
59.5°	0.8	1.2	0.8	19.5	0.8	0.8
60°	0.8	1.2	0.8	12.7	0.8	0.8
60.5°	0.8	0.8	0.8	7.5	0.8	0.8
61°	0.8	0.8	0.8	4.8	0.8	0.8
61.5°	0.8	0.8	0.8	2.8	0.8	0.8
62°	0.8	0.8	0.8	1.2	0.8	0.8
62.5°	0.8	0.8	0.8	0.8	0.8	0.8
63°	0.8	0.8	0.8	0.8	0.8	0.8
63.5°	0.8	0.8	0.8	0.8	0.8	0.8
64°	0.8	0.8	0.8	0.8	0.8	0.8
64.5°	0.8	0.8	0.8	0.8	0.8	0.8
65°	0.8	0.8	0.8	0.4	0.8	0.8
65.5°	0.4	0.8	0.4	0.4	0.4	0.4
66°	0.4	0.8	0.4	0.4	0.4	0.4



TEST NUMBER: P776527

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMB-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	0.4	0.4	0.4	0.4	0.4	0.4
68°	0.4	0.4	0.4	0.4	0.4	0.4
68.5°	0.4	0.4	0.4	0.4	0.4	0.4
69°	0.4	0.4	0.4	0.4	0.4	0.4
69.5°	0.4	0.4	0.4	0.4	0.4	0.4
70°	0.4	0.4	0.4	0.4	0.4	0.4
70.5°	0.4	0.4	0.4	0.4	0.4	0.4
71°	0.4	0.4	0.4	0.4	0.4	0.4
71.5°	0.4	0.4	0.4	0.4	0.4	0.4
72°	0.4	0.4	0.4	0.4	0.4	0.4
72.5°	0.4	0.4	0.4	0.4	0.4	0.4
73°	0.4	0.4	0.4	0.4	0.4	0.4
73.5°	0.4	0.4	0.4	0.4	0.4	0.4
74°	0.4	0.4	0.4	0.4	0.4	0.4
74.5°	0.4	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	0.0	0.4	0.4
77°	0.4	0.4	0.4	0.0	0.4	0.4
77.5°	0.4	0.4	0.4	0.0	0.4	0.0
78°	0.0	0.4	0.0	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	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: P776527

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMB-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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Scaled Data Report





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

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Scaled Data Report





21.5°	1703.4	1706.2	1708.6	1707.8	1705.4	1707.8	1708.6	1706.2	1703.4	1706.2	1708.6
22°	1694.7	1697.4	1700.2	1699.0	1696.6	1699.0	1700.2	1697.4	1694.7	1697.4	1700.2



44°	545.5	760.5	1103.8	767.7	557.1	767.7	1103.8	760.5	545.5	760.5	1103.8
44.5°	495.9	708.9	1087.9	717.2	507.4	717.2	1087.9	708.9	495.9	708.9	1087.9



66.5°	0.4	0.4	0.4	0.4	0.8	0.4	0.4	0.4	0.4	0.4	0.4	0.4
67°	0.4	0.4	0.4	0.4	0.8	0.4	0.4	0.4	0.4	0.4	0.4	0.4



89°	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

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21.5°	1707.8	1705.4	1707.8	1708.6	1706.2	1703.4
22°	1699.0	1696.6	1699.0	1700.2	1697.4	1694.7



44°	767.7	557.1	767.7	1103.8	760.5	545.5
44.5°	717.2	507.4	717.2	1087.9	708.9	495.9

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66.5°	0.4	0.8	0.4	0.4	0.4	0.4
67°	0.4	0.8	0.4	0.4	0.4	0.4

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

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(END OF REPORT)