

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: P776526

Luminaire Tested: HCDJBS3040CSD-HCD8TSQMB-4000lm-3000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776526
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-3000K
Description: 8 INCH SQUARE MEDIUM MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

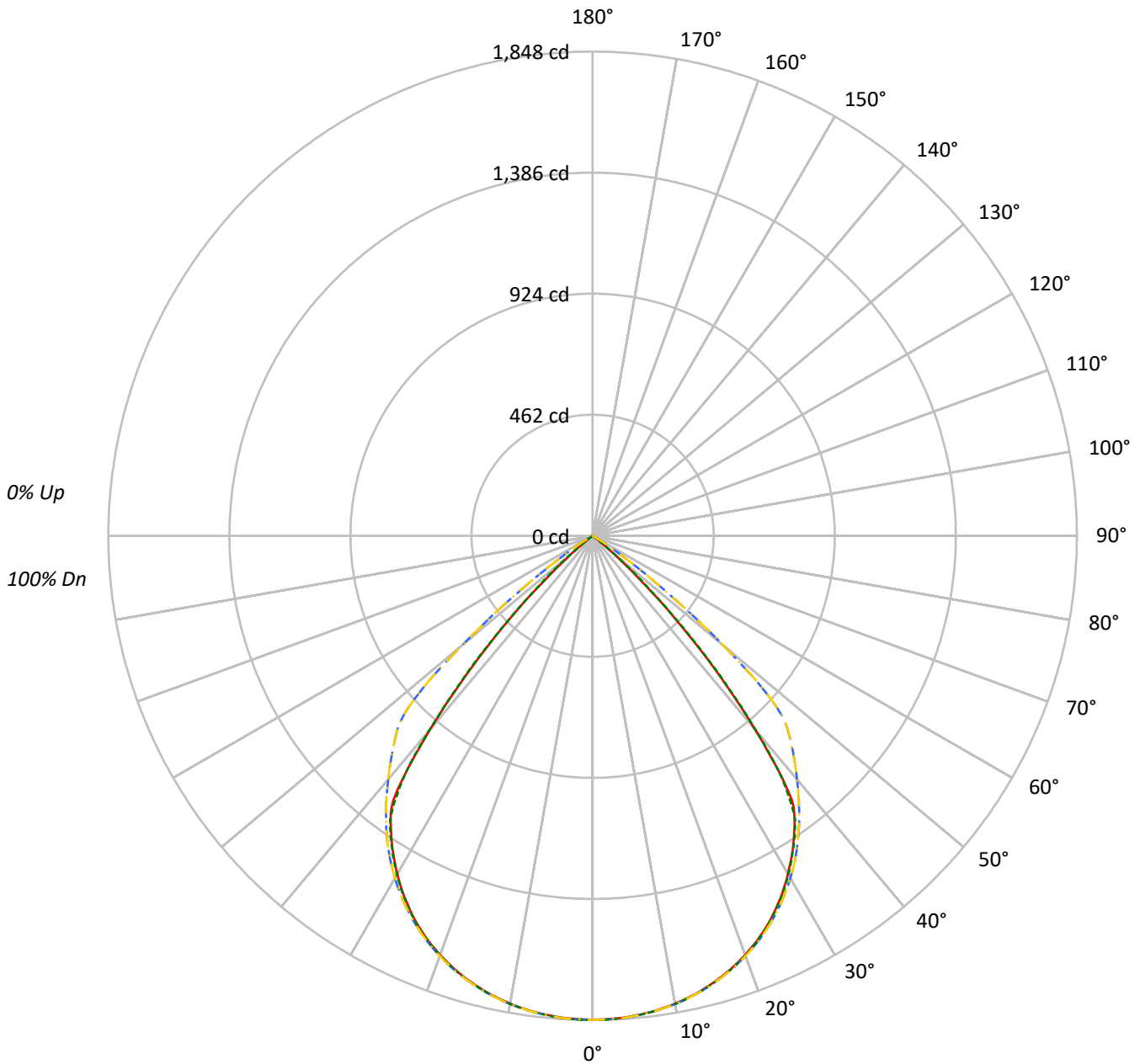
Lumens per Lamp: N/A
Luminaire Lumens: 2871.3 lumens
Efficiency: N/A
Efficacy: 74.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.2 / 1.28
Luminous Opening: Rectangular (W 0.67' x L: 0.67' x H: 0')
CIE Type: Direct

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



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20										
RC	80					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°	44305	44305	44305	44305
5°	44258	44286	44258	44286
10°	44148	44178	44148	44178
15°	43894	43934	43894	43934
20°	43443	43481	43443	43481
25°	42631	42681	42631	42681
30°	41266	41352	41266	41352
35°	39318	39433	39318	39433
40°	30137	30394	30137	30394
45°	14944	15328	14944	15328
50°	3286	3999	3286	3999
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: 35793 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.8	6.1
10°-20°	499.1	17.4
20°-30°	743.1	25.9
30°-40°	840.6	29.3
40°-50°	536.4	18.7
50°-60°	76.1	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°	1417.0	49.4
0°-40°	2257.6	78.6
0°-60°	2870.1	100.0
0°-90°	2871.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2871.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1848	1848	1848	1848	1848	
5°	1839	1840	1839	1840	1839	175
15°	1768	1770	1768	1770	1768	499
25°	1611	1613	1611	1613	1611	740
35°	1343	1347	1343	1347	1343	815
45°	441	452	441	452	441	352
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°	1847.7	1847.7	1847.7	1847.7	1847.7	1847.7	1847.7	1847.7	1847.7	1847.7	1847.7
0.5°	1846.9	1847.3	1847.7	1848.1	1848.1	1848.1	1847.7	1847.3	1846.9	1847.3	1847.7
1°	1846.5	1846.9	1847.3	1847.7	1847.7	1847.7	1847.3	1846.9	1846.5	1846.9	1847.3
1.5°	1846.1	1846.5	1846.9	1847.3	1847.3	1847.3	1846.9	1846.5	1846.1	1846.5	1846.9
2°	1845.7	1845.7	1846.5	1846.9	1846.5	1846.9	1846.5	1845.7	1845.7	1845.7	1846.5
2.5°	1844.9	1845.3	1845.7	1846.1	1846.1	1846.1	1845.7	1845.3	1844.9	1845.3	1845.7
3°	1844.2	1844.2	1844.9	1845.3	1844.9	1845.3	1844.9	1844.2	1844.2	1844.2	1844.9
3.5°	1843.0	1843.4	1843.8	1844.2	1844.2	1844.2	1843.8	1843.4	1843.0	1843.4	1843.8
4°	1841.8	1842.2	1842.6	1843.0	1842.6	1843.0	1842.6	1842.2	1841.8	1842.2	1842.6
4.5°	1840.2	1840.6	1841.0	1841.4	1841.4	1841.4	1841.0	1840.6	1840.2	1840.6	1841.0
5°	1838.7	1839.1	1839.9	1839.9	1839.9	1839.9	1839.9	1839.1	1838.7	1839.1	1839.9
5.5°	1837.1	1837.5	1837.9	1838.3	1837.9	1838.3	1837.9	1837.5	1837.1	1837.5	1837.9
6°	1835.2	1835.5	1835.9	1836.3	1836.3	1836.3	1835.9	1835.5	1835.2	1835.5	1835.9
6.5°	1833.2	1833.6	1834.0	1834.4	1834.0	1834.4	1834.0	1833.6	1833.2	1833.6	1834.0
7°	1830.9	1831.2	1832.0	1832.0	1832.0	1832.0	1832.0	1831.2	1830.9	1831.2	1832.0
7.5°	1828.5	1828.9	1829.3	1829.7	1829.3	1829.7	1829.3	1828.9	1828.5	1828.9	1829.3
8°	1825.8	1826.2	1826.9	1826.9	1826.9	1826.9	1826.9	1826.2	1825.8	1826.2	1826.9
8.5°	1823.0	1823.4	1824.2	1824.2	1823.8	1824.2	1824.2	1823.4	1823.0	1823.4	1824.2
9°	1819.9	1820.3	1821.1	1821.5	1821.1	1821.5	1821.1	1820.3	1819.9	1820.3	1821.1
9.5°	1816.8	1817.2	1817.9	1818.3	1817.5	1818.3	1817.9	1817.2	1816.8	1817.2	1817.9
10°	1813.2	1814.0	1814.8	1814.8	1814.4	1814.8	1814.8	1814.0	1813.2	1814.0	1814.8
10.5°	1809.7	1810.5	1811.3	1811.3	1810.9	1811.3	1811.3	1810.5	1809.7	1810.5	1811.3
11°	1805.8	1806.6	1807.8	1807.4	1807.0	1807.4	1807.8	1806.6	1805.8	1806.6	1807.8
11.5°	1801.9	1802.7	1803.8	1803.5	1803.1	1803.5	1803.8	1802.7	1801.9	1802.7	1803.8
12°	1797.6	1798.4	1799.5	1799.5	1798.8	1799.5	1799.5	1798.4	1797.6	1798.4	1799.5
12.5°	1793.3	1794.1	1795.2	1795.2	1794.5	1795.2	1795.2	1794.1	1793.3	1794.1	1795.2
13°	1788.6	1789.8	1790.9	1790.9	1790.1	1790.9	1790.9	1789.8	1788.6	1789.8	1790.9
13.5°	1783.9	1785.1	1786.2	1786.2	1785.5	1786.2	1786.2	1785.1	1783.9	1785.1	1786.2
14°	1778.8	1780.0	1781.1	1781.1	1780.4	1781.1	1781.1	1780.0	1778.8	1780.0	1781.1
14.5°	1773.7	1774.9	1776.1	1776.1	1775.3	1776.1	1776.1	1774.9	1773.7	1774.9	1776.1
15°	1768.2	1769.4	1771.0	1770.6	1769.8	1770.6	1771.0	1769.4	1768.2	1769.4	1771.0
15.5°	1762.8	1763.9	1765.5	1765.1	1764.3	1765.1	1765.5	1763.9	1762.8	1763.9	1765.5
16°	1756.9	1758.1	1759.6	1759.6	1758.4	1759.6	1759.6	1758.1	1756.9	1758.1	1759.6
16.5°	1751.0	1752.2	1753.8	1753.8	1752.6	1753.8	1753.8	1752.2	1751.0	1752.2	1753.8
17°	1744.4	1745.9	1747.9	1747.5	1746.3	1747.5	1747.9	1745.9	1744.4	1745.9	1747.9
17.5°	1738.1	1739.7	1741.2	1741.2	1740.1	1741.2	1741.2	1739.7	1738.1	1739.7	1741.2
18°	1731.4	1733.0	1735.0	1734.6	1733.0	1734.6	1735.0	1733.0	1731.4	1733.0	1735.0
18.5°	1724.4	1726.4	1727.9	1727.5	1726.0	1727.5	1727.9	1726.4	1724.4	1726.4	1727.9
19°	1717.4	1719.3	1720.9	1720.5	1718.9	1720.5	1720.9	1719.3	1717.4	1719.3	1720.9
19.5°	1709.9	1711.9	1713.8	1713.4	1711.9	1713.4	1713.8	1711.9	1709.9	1711.9	1713.8
20°	1702.5	1704.4	1706.4	1706.0	1704.0	1706.0	1706.4	1704.4	1702.5	1704.4	1706.4
20.5°	1694.3	1696.6	1699.0	1698.2	1696.2	1698.2	1699.0	1696.6	1694.3	1696.6	1699.0
21°	1686.0	1688.8	1691.1	1690.3	1688.0	1690.3	1691.1	1688.8	1686.0	1688.8	1691.1



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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°	1660.2	1663.3	1666.1	1664.9	1662.2	1664.9	1666.1	1663.3	1660.2	1663.3	1666.1
23°	1650.8	1654.3	1657.5	1655.9	1652.8	1655.9	1657.5	1654.3	1650.8	1654.3	1657.5
23.5°	1641.4	1645.3	1648.5	1646.5	1643.4	1646.5	1648.5	1645.3	1641.4	1645.3	1648.5
24°	1632.0	1635.6	1639.1	1637.1	1633.6	1637.1	1639.1	1635.6	1632.0	1635.6	1639.1
24.5°	1621.9	1625.8	1629.7	1627.3	1623.8	1627.3	1629.7	1625.8	1621.9	1625.8	1629.7
25°	1611.3	1616.0	1619.9	1617.2	1613.2	1617.2	1619.9	1616.0	1611.3	1616.0	1619.9
25.5°	1600.3	1605.8	1610.1	1607.0	1602.7	1607.0	1610.1	1605.8	1600.3	1605.8	1610.1
26°	1589.8	1595.2	1599.9	1596.4	1592.1	1596.4	1599.9	1595.2	1589.8	1595.2	1599.9
26.5°	1578.0	1584.3	1589.4	1585.5	1580.8	1585.5	1589.4	1584.3	1578.0	1584.3	1589.4
27°	1566.7	1572.9	1578.8	1574.1	1569.0	1574.1	1578.8	1572.9	1566.7	1572.9	1578.8
27.5°	1554.9	1561.6	1567.8	1562.8	1557.3	1562.8	1567.8	1561.6	1554.9	1561.6	1567.8
28°	1542.4	1549.8	1556.5	1551.0	1545.1	1551.0	1556.5	1549.8	1542.4	1549.8	1556.5
28.5°	1529.9	1537.7	1545.1	1539.3	1532.6	1539.3	1545.1	1537.7	1529.9	1537.7	1545.1
29°	1517.0	1525.2	1533.4	1526.8	1520.1	1526.8	1533.4	1525.2	1517.0	1525.2	1533.4
29.5°	1504.1	1512.7	1521.3	1514.2	1506.8	1514.2	1521.3	1512.7	1504.1	1512.7	1521.3
30°	1490.4	1499.7	1509.1	1501.7	1493.5	1501.7	1509.1	1499.7	1490.4	1499.7	1509.1
30.5°	1476.7	1486.8	1496.6	1488.4	1480.2	1488.4	1496.6	1486.8	1476.7	1486.8	1496.6
31°	1463.0	1473.1	1483.7	1475.1	1466.5	1475.1	1483.7	1473.1	1463.0	1473.1	1483.7
31.5°	1448.9	1459.8	1470.8	1461.8	1452.0	1461.8	1470.8	1459.8	1448.9	1459.8	1470.8
32°	1434.8	1446.1	1457.5	1448.1	1437.9	1448.1	1457.5	1446.1	1434.8	1446.1	1457.5
32.5°	1420.3	1432.0	1443.8	1434.0	1423.4	1434.0	1443.8	1432.0	1420.3	1432.0	1443.8
33°	1405.4	1418.0	1430.1	1419.9	1408.9	1419.9	1430.1	1418.0	1405.4	1418.0	1430.1
33.5°	1390.2	1403.5	1415.6	1405.8	1394.1	1405.8	1415.6	1403.5	1390.2	1403.5	1415.6
34°	1374.5	1389.4	1401.1	1391.3	1378.8	1391.3	1401.1	1389.4	1374.5	1389.4	1401.1
34.5°	1358.9	1374.5	1386.6	1376.5	1363.2	1376.5	1386.6	1374.5	1358.9	1374.5	1386.6
35°	1343.2	1359.6	1371.4	1361.6	1347.1	1361.6	1371.4	1359.6	1343.2	1359.6	1371.4
35.5°	1326.8	1344.8	1356.5	1346.7	1330.7	1346.7	1356.5	1344.8	1326.8	1344.8	1356.5
36°	1310.3	1329.5	1341.2	1331.5	1304.5	1331.5	1341.2	1329.5	1310.3	1329.5	1341.2
36.5°	1290.8	1313.5	1325.6	1315.8	1275.5	1315.8	1325.6	1313.5	1290.8	1313.5	1325.6
37°	1263.7	1297.4	1309.9	1300.1	1241.4	1300.1	1309.9	1297.4	1263.7	1297.4	1309.9
37.5°	1222.7	1281.4	1293.9	1283.7	1208.6	1283.7	1293.9	1281.4	1222.7	1281.4	1293.9
38°	1178.0	1265.3	1277.8	1265.3	1171.0	1265.3	1277.8	1265.3	1178.0	1265.3	1277.8
38.5°	1125.2	1248.1	1261.8	1239.1	1127.9	1239.1	1261.8	1248.1	1125.2	1248.1	1261.8
39°	1071.6	1225.4	1246.1	1208.6	1079.8	1208.6	1246.1	1225.4	1071.6	1225.4	1246.1
39.5°	1017.2	1194.5	1229.7	1176.9	1026.2	1176.9	1229.7	1194.5	1017.2	1194.5	1229.7
40°	962.8	1154.6	1213.3	1142.4	971.0	1142.4	1213.3	1154.6	962.8	1154.6	1213.3
40.5°	908.0	1108.0	1197.6	1103.7	914.6	1103.7	1197.6	1108.0	908.0	1108.0	1197.6
41°	852.4	1057.5	1181.6	1060.6	860.6	1060.6	1181.6	1057.5	852.4	1057.5	1181.6
41.5°	798.8	1006.6	1165.9	1013.3	807.4	1013.3	1165.9	1006.6	798.8	1006.6	1165.9
42°	744.4	955.3	1150.3	962.0	755.4	962.0	1150.3	955.3	744.4	955.3	1150.3
42.5°	692.0	904.5	1134.6	909.9	703.7	909.9	1134.6	904.5	692.0	904.5	1134.6
43°	639.5	852.4	1118.9	857.1	651.2	857.1	1118.9	852.4	639.5	852.4	1118.9
43.5°	588.2	800.4	1102.9	806.2	599.2	806.2	1102.9	800.4	588.2	800.4	1102.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	440.7	647.7	1055.5	657.5	452.0	657.5	1055.5	647.7	440.7	647.7	1055.5
45.5°	394.1	598.8	1039.5	607.8	406.6	607.8	1039.5	598.8	394.1	598.8	1039.5
46°	350.3	550.7	1018.7	559.7	363.2	559.7	1018.7	550.7	350.3	550.7	1018.7
46.5°	307.6	502.9	994.5	512.3	320.9	512.3	994.5	502.9	307.6	502.9	994.5
47°	265.4	456.0	960.4	465.7	283.7	465.7	960.4	456.0	265.4	456.0	960.4
47.5°	225.0	410.2	922.5	420.7	252.0	420.7	922.5	410.2	225.0	410.2	922.5
48°	189.8	367.1	876.7	377.3	220.7	377.3	876.7	367.1	189.8	367.1	876.7
48.5°	157.7	325.6	826.6	335.8	189.4	335.8	826.6	325.6	157.7	325.6	826.6
49°	133.1	284.5	769.8	296.3	158.1	296.3	769.8	284.5	133.1	284.5	769.8
49.5°	110.0	244.6	712.3	259.5	130.3	259.5	712.3	244.6	110.0	244.6	712.3
50°	88.1	207.0	652.8	227.4	107.2	227.4	652.8	207.0	88.1	207.0	652.8
50.5°	70.1	173.4	594.5	197.3	84.5	197.3	594.5	173.4	70.1	173.4	594.5
51°	52.4	144.8	537.7	168.3	64.2	168.3	537.7	144.8	52.4	144.8	537.7
51.5°	37.6	120.9	484.9	141.3	50.5	141.3	484.9	120.9	37.6	120.9	484.9
52°	22.7	98.2	433.3	116.6	40.3	116.6	433.3	98.2	22.7	98.2	433.3
52.5°	8.2	79.1	383.5	94.3	30.1	94.3	383.5	79.1	8.2	79.1	383.5
53°	4.7	61.4	336.2	75.1	20.4	75.1	336.2	61.4	4.7	61.4	336.2
53.5°	3.5	45.4	294.3	57.1	11.7	57.1	294.3	45.4	3.5	45.4	294.3
54°	2.3	31.3	254.8	41.9	3.1	41.9	254.8	31.3	2.3	31.3	254.8
54.5°	1.2	17.2	218.0	31.3	1.6	31.3	218.0	17.2	1.2	17.2	218.0
55°	1.2	5.9	184.7	21.1	1.6	21.1	184.7	5.9	1.2	5.9	184.7
55.5°	1.2	3.5	153.0	12.9	1.6	12.9	153.0	3.5	1.2	3.5	153.0
56°	1.2	2.7	125.2	7.8	1.2	7.8	125.2	2.7	1.2	2.7	125.2
56.5°	1.2	1.6	103.3	3.1	1.2	3.1	103.3	1.6	1.2	1.6	103.3
57°	1.2	1.2	82.6	2.0	1.2	2.0	82.6	1.2	1.2	1.2	82.6
57.5°	1.2	1.2	64.2	1.2	1.2	1.2	64.2	1.2	1.2	1.2	64.2
58°	1.2	1.2	47.7	1.2	1.2	1.2	47.7	1.2	1.2	1.2	47.7
58.5°	0.8	0.8	34.4	1.2	1.2	1.2	34.4	0.8	0.8	0.8	34.4
59°	0.8	0.8	26.2	0.8	1.2	0.8	26.2	0.8	0.8	0.8	26.2
59.5°	0.8	0.8	19.2	0.8	1.2	0.8	19.2	0.8	0.8	0.8	19.2
60°	0.8	0.8	12.5	0.8	1.2	0.8	12.5	0.8	0.8	0.8	12.5
60.5°	0.8	0.8	7.4	0.8	0.8	0.8	7.4	0.8	0.8	0.8	7.4
61°	0.8	0.8	4.7	0.8	0.8	0.8	4.7	0.8	0.8	0.8	4.7
61.5°	0.8	0.8	2.7	0.8	0.8	0.8	2.7	0.8	0.8	0.8	2.7
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: P776526

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMB-4000lm-3000K

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: P776526
CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776526

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1847.7	1847.7	1847.7	1847.7	1847.7	1847.7
0.5°	1848.1	1848.1	1848.1	1847.7	1847.3	1846.9
1°	1847.7	1847.7	1847.7	1847.3	1846.9	1846.5
1.5°	1847.3	1847.3	1847.3	1846.9	1846.5	1846.1
2°	1846.9	1846.5	1846.9	1846.5	1845.7	1845.7
2.5°	1846.1	1846.1	1846.1	1845.7	1845.3	1844.9
3°	1845.3	1844.9	1845.3	1844.9	1844.2	1844.2
3.5°	1844.2	1844.2	1844.2	1843.8	1843.4	1843.0
4°	1843.0	1842.6	1843.0	1842.6	1842.2	1841.8
4.5°	1841.4	1841.4	1841.4	1841.0	1840.6	1840.2
5°	1839.9	1839.9	1839.9	1839.9	1839.1	1838.7
5.5°	1838.3	1837.9	1838.3	1837.9	1837.5	1837.1
6°	1836.3	1836.3	1836.3	1835.9	1835.5	1835.2
6.5°	1834.4	1834.0	1834.4	1834.0	1833.6	1833.2
7°	1832.0	1832.0	1832.0	1832.0	1831.2	1830.9
7.5°	1829.7	1829.3	1829.7	1829.3	1828.9	1828.5
8°	1826.9	1826.9	1826.9	1826.9	1826.2	1825.8
8.5°	1824.2	1823.8	1824.2	1824.2	1823.4	1823.0
9°	1821.5	1821.1	1821.5	1821.1	1820.3	1819.9
9.5°	1818.3	1817.5	1818.3	1817.9	1817.2	1816.8
10°	1814.8	1814.4	1814.8	1814.8	1814.0	1813.2
10.5°	1811.3	1810.9	1811.3	1811.3	1810.5	1809.7
11°	1807.4	1807.0	1807.4	1807.8	1806.6	1805.8
11.5°	1803.5	1803.1	1803.5	1803.8	1802.7	1801.9
12°	1799.5	1798.8	1799.5	1799.5	1798.4	1797.6
12.5°	1795.2	1794.5	1795.2	1795.2	1794.1	1793.3
13°	1790.9	1790.1	1790.9	1790.9	1789.8	1788.6
13.5°	1786.2	1785.5	1786.2	1786.2	1785.1	1783.9
14°	1781.1	1780.4	1781.1	1781.1	1780.0	1778.8
14.5°	1776.1	1775.3	1776.1	1776.1	1774.9	1773.7
15°	1770.6	1769.8	1770.6	1771.0	1769.4	1768.2
15.5°	1765.1	1764.3	1765.1	1765.5	1763.9	1762.8
16°	1759.6	1758.4	1759.6	1759.6	1758.1	1756.9
16.5°	1753.8	1752.6	1753.8	1753.8	1752.2	1751.0
17°	1747.5	1746.3	1747.5	1747.9	1745.9	1744.4
17.5°	1741.2	1740.1	1741.2	1741.2	1739.7	1738.1
18°	1734.6	1733.0	1734.6	1735.0	1733.0	1731.4
18.5°	1727.5	1726.0	1727.5	1727.9	1726.4	1724.4
19°	1720.5	1718.9	1720.5	1720.9	1719.3	1717.4
19.5°	1713.4	1711.9	1713.4	1713.8	1711.9	1709.9
20°	1706.0	1704.0	1706.0	1706.4	1704.4	1702.5
20.5°	1698.2	1696.2	1698.2	1699.0	1696.6	1694.3
21°	1690.3	1688.0	1690.3	1691.1	1688.8	1686.0

TEST NUMBER: P776526

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1664.9	1662.2	1664.9	1666.1	1663.3	1660.2
23°	1655.9	1652.8	1655.9	1657.5	1654.3	1650.8
23.5°	1646.5	1643.4	1646.5	1648.5	1645.3	1641.4
24°	1637.1	1633.6	1637.1	1639.1	1635.6	1632.0
24.5°	1627.3	1623.8	1627.3	1629.7	1625.8	1621.9
25°	1617.2	1613.2	1617.2	1619.9	1616.0	1611.3
25.5°	1607.0	1602.7	1607.0	1610.1	1605.8	1600.3
26°	1596.4	1592.1	1596.4	1599.9	1595.2	1589.8
26.5°	1585.5	1580.8	1585.5	1589.4	1584.3	1578.0
27°	1574.1	1569.0	1574.1	1578.8	1572.9	1566.7
27.5°	1562.8	1557.3	1562.8	1567.8	1561.6	1554.9
28°	1551.0	1545.1	1551.0	1556.5	1549.8	1542.4
28.5°	1539.3	1532.6	1539.3	1545.1	1537.7	1529.9
29°	1526.8	1520.1	1526.8	1533.4	1525.2	1517.0
29.5°	1514.2	1506.8	1514.2	1521.3	1512.7	1504.1
30°	1501.7	1493.5	1501.7	1509.1	1499.7	1490.4
30.5°	1488.4	1480.2	1488.4	1496.6	1486.8	1476.7
31°	1475.1	1466.5	1475.1	1483.7	1473.1	1463.0
31.5°	1461.8	1452.0	1461.8	1470.8	1459.8	1448.9
32°	1448.1	1437.9	1448.1	1457.5	1446.1	1434.8
32.5°	1434.0	1423.4	1434.0	1443.8	1432.0	1420.3
33°	1419.9	1408.9	1419.9	1430.1	1418.0	1405.4
33.5°	1405.8	1394.1	1405.8	1415.6	1403.5	1390.2
34°	1391.3	1378.8	1391.3	1401.1	1389.4	1374.5
34.5°	1376.5	1363.2	1376.5	1386.6	1374.5	1358.9
35°	1361.6	1347.1	1361.6	1371.4	1359.6	1343.2
35.5°	1346.7	1330.7	1346.7	1356.5	1344.8	1326.8
36°	1331.5	1304.5	1331.5	1341.2	1329.5	1310.3
36.5°	1315.8	1275.5	1315.8	1325.6	1313.5	1290.8
37°	1300.1	1241.4	1300.1	1309.9	1297.4	1263.7
37.5°	1283.7	1208.6	1283.7	1293.9	1281.4	1222.7
38°	1265.3	1171.0	1265.3	1277.8	1265.3	1178.0
38.5°	1239.1	1127.9	1239.1	1261.8	1248.1	1125.2
39°	1208.6	1079.8	1208.6	1246.1	1225.4	1071.6
39.5°	1176.9	1026.2	1176.9	1229.7	1194.5	1017.2
40°	1142.4	971.0	1142.4	1213.3	1154.6	962.8
40.5°	1103.7	914.6	1103.7	1197.6	1108.0	908.0
41°	1060.6	860.6	1060.6	1181.6	1057.5	852.4
41.5°	1013.3	807.4	1013.3	1165.9	1006.6	798.8
42°	962.0	755.4	962.0	1150.3	955.3	744.4
42.5°	909.9	703.7	909.9	1134.6	904.5	692.0
43°	857.1	651.2	857.1	1118.9	852.4	639.5
43.5°	806.2	599.2	806.2	1102.9	800.4	588.2



TEST NUMBER: P776526

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	657.5	452.0	657.5	1055.5	647.7	440.7
45.5°	607.8	406.6	607.8	1039.5	598.8	394.1
46°	559.7	363.2	559.7	1018.7	550.7	350.3
46.5°	512.3	320.9	512.3	994.5	502.9	307.6
47°	465.7	283.7	465.7	960.4	456.0	265.4
47.5°	420.7	252.0	420.7	922.5	410.2	225.0
48°	377.3	220.7	377.3	876.7	367.1	189.8
48.5°	335.8	189.4	335.8	826.6	325.6	157.7
49°	296.3	158.1	296.3	769.8	284.5	133.1
49.5°	259.5	130.3	259.5	712.3	244.6	110.0
50°	227.4	107.2	227.4	652.8	207.0	88.1
50.5°	197.3	84.5	197.3	594.5	173.4	70.1
51°	168.3	64.2	168.3	537.7	144.8	52.4
51.5°	141.3	50.5	141.3	484.9	120.9	37.6
52°	116.6	40.3	116.6	433.3	98.2	22.7
52.5°	94.3	30.1	94.3	383.5	79.1	8.2
53°	75.1	20.4	75.1	336.2	61.4	4.7
53.5°	57.1	11.7	57.1	294.3	45.4	3.5
54°	41.9	3.1	41.9	254.8	31.3	2.3
54.5°	31.3	1.6	31.3	218.0	17.2	1.2
55°	21.1	1.6	21.1	184.7	5.9	1.2
55.5°	12.9	1.6	12.9	153.0	3.5	1.2
56°	7.8	1.2	7.8	125.2	2.7	1.2
56.5°	3.1	1.2	3.1	103.3	1.6	1.2
57°	2.0	1.2	2.0	82.6	1.2	1.2
57.5°	1.2	1.2	1.2	64.2	1.2	1.2
58°	1.2	1.2	1.2	47.7	1.2	1.2
58.5°	1.2	1.2	1.2	34.4	0.8	0.8
59°	0.8	1.2	0.8	26.2	0.8	0.8
59.5°	0.8	1.2	0.8	19.2	0.8	0.8
60°	0.8	1.2	0.8	12.5	0.8	0.8
60.5°	0.8	0.8	0.8	7.4	0.8	0.8
61°	0.8	0.8	0.8	4.7	0.8	0.8
61.5°	0.8	0.8	0.8	2.7	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: P776526

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMB-4000lm-3000K

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: P776526

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

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



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Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

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°	1677.8	1680.6	1682.9	1682.1	1679.8	1682.1	1682.9	1680.6	1677.8	1680.6	1682.9
22°	1669.2	1672.0	1674.7	1673.5	1671.2	1673.5	1674.7	1672.0	1669.2	1672.0	1674.7



44°	537.4	749.1	1087.2	756.1	548.7	756.1	1087.2	749.1	537.4	749.1	1087.2
44.5°	488.4	698.2	1071.6	706.4	499.8	706.4	1071.6	698.2	488.4	698.2	1071.6



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°	1682.1	1679.8	1682.1	1682.9	1680.6	1677.8
22°	1673.5	1671.2	1673.5	1674.7	1672.0	1669.2



44°	756.1	548.7	756.1	1087.2	749.1	537.4
44.5°	706.4	499.8	706.4	1071.6	698.2	488.4

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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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Scaled Data Report



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)