

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: P776451

Luminaire Tested: HCDJBL3040CSD-HCD81TRMB-4000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776451
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B045-HCD81TRMB)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD81TRMB-4000lm-3000K
Description: 8 INCH ROUND SHALLOW-WIDE MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

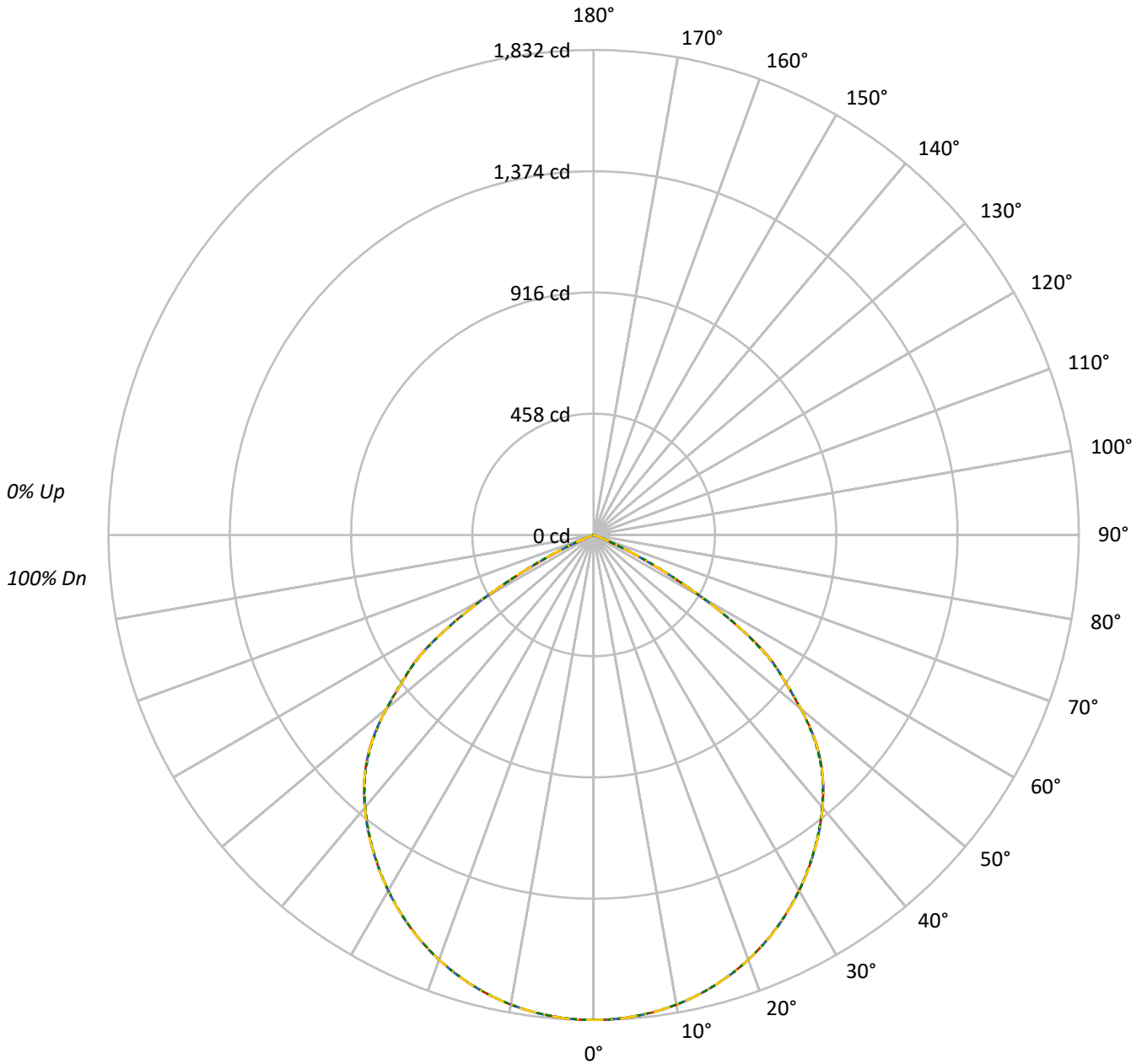
Lumens per Lamp: N/A
Luminaire Lumens: 4138.7 lumens
Efficiency: N/A
Efficacy: 107.5 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.26 / 1.37
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

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: P776451
CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-3000K

Luminous Intensity Polar Plot





TEST NUMBER: P776451

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-3000K

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	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	111	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89								
2	103	97	91	86	101	95	90	85	91	87	84	88	85	82	85	82	80	78								
3	95	86	80	74	93	85	79	74	82	77	72	80	75	71	77	73	70	68								
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59								
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52								
6	75	63	55	50	74	62	55	49	61	54	49	59	53	49	58	52	48	46								
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41								
8	65	53	45	39	64	52	45	39	51	44	39	50	43	39	48	43	39	37								
9	61	48	41	36	60	48	41	36	47	40	35	46	40	35	45	39	35	33								
10	57	45	37	32	56	44	37	32	43	37	32	42	36	32	42	36	32	30								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	55941	55941	55941	55941
5°	55924	55900	55924	55900
10°	55855	55843	55855	55843
15°	55711	55698	55711	55698
20°	55486	55473	55486	55473
25°	55145	55118	55145	55118
30°	54703	54660	54703	54660
35°	54184	54113	54184	54113
40°	53576	53465	53576	53465
45°	52364	52179	52364	52179
50°	48494	48494	48494	48494
55°	43163	42683	43163	42683
60°	28821	29224	28821	29224
65°	10208	12216	10208	12216
70°	107	1152	107	1152
75°	0	0	0	0
80°	0	0	0	0
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 52364 cd/sqm



TEST NUMBER: P776451

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-3000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.5	4.2
10°-20°	497.5	12.0
20°-30°	754.3	18.2
30°-40°	909.4	22.0
40°-50°	927.0	22.4
50°-60°	696.6	16.8
60°-70°	180.0	4.3
70°-80°	0.5	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°	1425.2	34.4
0°-40°	2334.6	56.4
0°-60°	3958.2	95.6
0°-90°	4138.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4138.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1832	1832	1832	1832	1832	
5°	1825	1824	1825	1824	1825	173
15°	1763	1762	1763	1762	1763	497
25°	1637	1636	1637	1636	1637	754
35°	1454	1452	1454	1452	1454	909
45°	1213	1208	1213	1208	1213	928
55°	811	802	811	802	811	697
65°	141	169	141	169	141	168
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



TEST NUMBER: P776451

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-3000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1832.3	1832.3	1832.3	1832.3	1832.3	1832.3	1832.3	1832.3	1832.3	1832.3	1832.3
0.5°	1832.3	1832.3	1832.3	1832.3	1831.9	1832.3	1832.3	1832.3	1832.3	1832.3	1832.3
1°	1832.3	1832.3	1832.3	1831.9	1831.5	1831.9	1832.3	1832.3	1832.3	1832.3	1832.3
1.5°	1831.9	1831.9	1831.9	1831.9	1831.5	1831.9	1831.9	1831.9	1831.9	1831.9	1831.9
2°	1831.5	1831.5	1831.5	1831.1	1830.7	1831.1	1831.5	1831.5	1831.5	1831.5	1831.5
2.5°	1830.3	1830.7	1830.7	1830.7	1829.9	1830.7	1830.7	1830.7	1830.3	1830.7	1830.7
3°	1829.5	1829.9	1829.9	1829.9	1829.1	1829.9	1829.9	1829.9	1829.5	1829.9	1829.9
3.5°	1828.7	1828.7	1828.7	1828.7	1828.3	1828.7	1828.7	1828.7	1828.7	1828.7	1828.7
4°	1827.6	1827.6	1827.6	1827.6	1826.8	1827.6	1827.6	1827.6	1827.6	1827.6	1827.6
4.5°	1826.4	1826.4	1826.4	1826.4	1825.6	1826.4	1826.4	1826.4	1826.4	1826.4	1826.4
5°	1824.8	1824.8	1824.8	1824.8	1824.0	1824.8	1824.8	1824.8	1824.8	1824.8	1824.8
5.5°	1823.3	1823.3	1823.3	1823.3	1822.5	1823.3	1823.3	1823.3	1823.3	1823.3	1823.3
6°	1821.3	1821.7	1821.3	1821.3	1820.9	1821.3	1821.3	1821.7	1821.3	1821.7	1821.3
6.5°	1819.3	1819.7	1819.7	1819.3	1819.0	1819.3	1819.7	1819.7	1819.3	1819.7	1819.7
7°	1817.4	1817.4	1817.4	1817.4	1817.0	1817.4	1817.4	1817.4	1817.4	1817.4	1817.4
7.5°	1815.0	1815.0	1815.0	1815.4	1814.6	1815.4	1815.0	1815.0	1815.0	1815.0	1815.0
8°	1812.7	1812.7	1812.7	1812.7	1812.3	1812.7	1812.7	1812.7	1812.7	1812.7	1812.7
8.5°	1810.3	1810.3	1810.3	1810.3	1809.6	1810.3	1810.3	1810.3	1810.3	1810.3	1810.3
9°	1807.6	1807.6	1807.6	1807.6	1807.2	1807.6	1807.6	1807.6	1807.6	1807.6	1807.6
9.5°	1804.5	1804.9	1804.9	1804.9	1804.1	1804.9	1804.9	1804.9	1804.5	1804.9	1804.9
10°	1801.7	1801.7	1801.7	1801.7	1801.3	1801.7	1801.7	1801.7	1801.7	1801.7	1801.7
10.5°	1798.6	1798.6	1798.6	1798.6	1798.2	1798.6	1798.6	1798.6	1798.6	1798.6	1798.6
11°	1795.1	1795.1	1795.1	1795.5	1794.7	1795.5	1795.1	1795.1	1795.1	1795.1	1795.1
11.5°	1791.6	1791.6	1791.6	1792.0	1791.2	1792.0	1791.6	1791.6	1791.6	1791.6	1791.6
12°	1788.0	1788.0	1788.0	1788.0	1787.6	1788.0	1788.0	1788.0	1788.0	1788.0	1788.0
12.5°	1784.1	1784.1	1784.1	1784.5	1783.7	1784.5	1784.1	1784.1	1784.1	1784.1	1784.1
13°	1780.2	1780.2	1780.2	1780.2	1779.8	1780.2	1780.2	1780.2	1780.2	1780.2	1780.2
13.5°	1775.9	1776.3	1776.3	1776.3	1775.5	1776.3	1776.3	1776.3	1775.9	1776.3	1776.3
14°	1771.6	1772.0	1772.0	1772.0	1771.2	1772.0	1772.0	1772.0	1771.6	1772.0	1772.0
14.5°	1767.3	1767.3	1767.3	1767.3	1766.9	1767.3	1767.3	1767.3	1767.3	1767.3	1767.3
15°	1762.6	1762.6	1762.6	1763.0	1762.2	1763.0	1762.6	1762.6	1762.6	1762.6	1762.6
15.5°	1757.9	1757.9	1757.9	1757.9	1757.5	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9
16°	1752.8	1753.2	1753.2	1753.2	1752.4	1753.2	1753.2	1753.2	1752.8	1753.2	1753.2
16.5°	1747.7	1747.7	1748.1	1748.1	1747.7	1748.1	1748.1	1747.7	1747.7	1747.7	1748.1
17°	1742.6	1742.6	1743.0	1742.6	1742.2	1742.6	1743.0	1742.6	1742.6	1742.6	1743.0
17.5°	1737.2	1737.2	1737.6	1737.6	1737.2	1737.6	1737.6	1737.2	1737.2	1737.2	1737.6
18°	1731.7	1731.7	1731.7	1731.7	1731.3	1731.7	1731.7	1731.7	1731.7	1731.7	1731.7
18.5°	1725.8	1725.8	1726.2	1726.2	1725.4	1726.2	1726.2	1725.8	1725.8	1725.8	1726.2
19°	1719.9	1719.9	1720.3	1720.3	1719.6	1720.3	1720.3	1719.9	1719.9	1719.9	1720.3
19.5°	1714.1	1714.1	1714.1	1714.1	1713.7	1714.1	1714.1	1714.1	1714.1	1714.1	1714.1
20°	1707.8	1707.8	1707.8	1707.8	1707.4	1707.8	1707.8	1707.8	1707.8	1707.8	1707.8
20.5°	1701.2	1701.6	1701.6	1701.6	1700.8	1701.6	1701.6	1701.6	1701.2	1701.6	1701.6
21°	1694.9	1694.9	1694.9	1694.9	1694.5	1694.9	1694.9	1694.9	1694.9	1694.9	1694.9



TEST NUMBER: P776451

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	1674.2	1674.5	1674.5	1674.5	1673.8	1674.5	1674.5	1674.5	1674.2	1674.5	1674.5
23°	1667.1	1667.1	1667.1	1667.1	1666.7	1667.1	1667.1	1667.1	1667.1	1667.1	1667.1
23.5°	1659.7	1660.1	1660.1	1660.1	1659.3	1660.1	1660.1	1660.1	1659.7	1660.1	1660.1
24°	1652.2	1652.2	1652.6	1652.2	1651.9	1652.2	1652.6	1652.2	1652.2	1652.2	1652.6
24.5°	1644.4	1644.8	1645.2	1644.8	1644.0	1644.8	1645.2	1644.8	1644.4	1644.8	1645.2
25°	1637.0	1637.0	1637.4	1637.0	1636.2	1637.0	1637.4	1637.0	1637.0	1637.0	1637.4
25.5°	1628.8	1629.2	1629.5	1629.2	1628.4	1629.2	1629.5	1629.2	1628.8	1629.2	1629.5
26°	1620.9	1620.9	1621.3	1620.9	1620.2	1620.9	1621.3	1620.9	1620.9	1620.9	1621.3
26.5°	1612.7	1613.1	1613.1	1612.7	1611.9	1612.7	1613.1	1613.1	1612.7	1613.1	1613.1
27°	1604.5	1604.5	1604.9	1604.5	1603.7	1604.5	1604.9	1604.5	1604.5	1604.5	1604.9
27.5°	1595.9	1596.3	1596.3	1595.9	1595.1	1595.9	1596.3	1596.3	1595.9	1596.3	1596.3
28°	1587.3	1587.7	1587.7	1587.3	1586.5	1587.3	1587.7	1587.7	1587.3	1587.7	1587.7
28.5°	1578.7	1578.7	1579.1	1578.7	1577.9	1578.7	1579.1	1578.7	1578.7	1578.7	1579.1
29°	1569.7	1570.1	1570.1	1569.7	1568.5	1569.7	1570.1	1570.1	1569.7	1570.1	1570.1
29.5°	1560.7	1561.1	1561.1	1560.7	1559.5	1560.7	1561.1	1561.1	1560.7	1561.1	1561.1
30°	1551.7	1552.1	1552.1	1551.3	1550.5	1551.3	1552.1	1552.1	1551.7	1552.1	1552.1
30.5°	1542.7	1542.7	1542.7	1542.3	1541.1	1542.3	1542.7	1542.7	1542.7	1542.7	1542.7
31°	1532.9	1533.3	1533.7	1532.5	1531.7	1532.5	1533.7	1533.3	1532.9	1533.3	1533.7
31.5°	1523.5	1523.9	1523.9	1523.1	1521.9	1523.1	1523.9	1523.9	1523.5	1523.9	1523.9
32°	1514.1	1514.5	1514.5	1513.7	1512.1	1513.7	1514.5	1514.5	1514.1	1514.5	1514.5
32.5°	1504.3	1504.7	1504.7	1503.5	1502.4	1503.5	1504.7	1504.7	1504.3	1504.7	1504.7
33°	1494.1	1494.9	1494.9	1494.1	1492.6	1494.1	1494.9	1494.9	1494.1	1494.9	1494.9
33.5°	1484.4	1484.7	1485.1	1484.0	1482.4	1484.0	1485.1	1484.7	1484.4	1484.7	1485.1
34°	1474.2	1474.6	1475.0	1473.8	1472.6	1473.8	1475.0	1474.6	1474.2	1474.6	1475.0
34.5°	1464.0	1464.4	1464.8	1463.6	1462.4	1463.6	1464.8	1464.4	1464.0	1464.4	1464.8
35°	1453.8	1454.2	1454.6	1453.4	1451.9	1453.4	1454.6	1454.2	1453.8	1454.2	1454.6
35.5°	1443.3	1444.0	1444.0	1442.9	1441.3	1442.9	1444.0	1444.0	1443.3	1444.0	1444.0
36°	1433.1	1433.5	1433.9	1432.3	1430.7	1432.3	1433.9	1433.5	1433.1	1433.5	1433.9
36.5°	1422.5	1422.9	1423.3	1421.7	1420.2	1421.7	1423.3	1422.9	1422.5	1422.9	1423.3
37°	1411.6	1412.0	1412.3	1410.8	1409.6	1410.8	1412.3	1412.0	1411.6	1412.0	1412.3
37.5°	1400.6	1401.4	1401.8	1399.8	1398.3	1399.8	1401.8	1401.4	1400.6	1401.4	1401.8
38°	1389.7	1390.0	1390.8	1388.9	1387.7	1388.9	1390.8	1390.0	1389.7	1390.0	1390.8
38.5°	1378.3	1379.1	1379.5	1377.9	1376.3	1377.9	1379.5	1379.1	1378.3	1379.1	1379.5
39°	1367.3	1368.1	1368.5	1366.6	1365.0	1366.6	1368.5	1368.1	1367.3	1368.1	1368.5
39.5°	1356.0	1356.4	1356.8	1355.2	1353.3	1355.2	1356.8	1356.4	1356.0	1356.4	1356.8
40°	1344.3	1345.0	1345.0	1343.5	1341.5	1343.5	1345.0	1345.0	1344.3	1345.0	1345.0
40.5°	1332.5	1332.9	1333.3	1331.3	1329.8	1331.3	1333.3	1332.9	1332.5	1332.9	1333.3
41°	1320.4	1321.2	1321.6	1319.6	1317.6	1319.6	1321.6	1321.2	1320.4	1321.2	1321.6
41.5°	1308.3	1308.6	1309.0	1307.1	1305.5	1307.1	1309.0	1308.6	1308.3	1308.6	1309.0
42°	1295.7	1296.1	1296.5	1294.6	1292.6	1294.6	1296.5	1296.1	1295.7	1296.1	1296.5
42.5°	1282.8	1283.6	1283.6	1281.6	1279.7	1281.6	1283.6	1283.6	1282.8	1283.6	1283.6
43°	1269.9	1270.3	1270.3	1268.3	1266.4	1268.3	1270.3	1270.3	1269.9	1270.3	1270.3
43.5°	1256.2	1256.6	1256.6	1254.6	1252.7	1254.6	1256.6	1256.6	1256.2	1256.6	1256.6



TEST NUMBER: P776451

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1212.8	1212.8	1212.4	1210.4	1208.5	1210.4	1212.4	1212.8	1212.8	1212.8	1212.4
45.5°	1197.1	1197.1	1196.7	1194.4	1192.4	1194.4	1196.7	1197.1	1197.1	1197.1	1196.7
46°	1181.1	1181.1	1180.3	1177.9	1175.6	1177.9	1180.3	1181.1	1181.1	1181.1	1180.3
46.5°	1163.8	1163.8	1163.1	1160.3	1158.8	1160.3	1163.1	1163.8	1163.8	1163.8	1163.1
47°	1145.8	1145.8	1144.7	1142.3	1140.4	1142.3	1144.7	1145.8	1145.8	1145.8	1144.7
47.5°	1127.1	1127.1	1125.9	1123.5	1121.6	1123.5	1125.9	1127.1	1127.1	1127.1	1125.9
48°	1107.5	1107.5	1106.7	1104.4	1102.8	1104.4	1106.7	1107.5	1107.5	1107.5	1106.7
48.5°	1087.1	1087.1	1086.4	1084.8	1083.2	1084.8	1086.4	1087.1	1087.1	1087.1	1086.4
49°	1065.6	1065.6	1065.2	1064.1	1063.3	1064.1	1065.2	1065.6	1065.6	1065.6	1065.2
49.5°	1044.1	1043.7	1044.1	1042.9	1042.5	1042.9	1044.1	1043.7	1044.1	1043.7	1044.1
50°	1021.0	1021.4	1022.2	1021.4	1021.0	1021.4	1022.2	1021.4	1021.0	1021.4	1022.2
50.5°	997.1	998.7	999.9	999.5	999.5	999.5	999.9	998.7	997.1	998.7	999.9
51°	974.4	975.2	976.4	977.6	978.4	977.6	976.4	975.2	974.4	975.2	976.4
51.5°	952.1	952.5	954.1	955.3	956.4	955.3	954.1	952.5	952.1	952.5	954.1
52°	929.8	930.6	932.2	933.7	935.7	933.7	932.2	930.6	929.8	930.6	932.2
52.5°	908.7	909.5	911.4	913.4	915.0	913.4	911.4	909.5	908.7	909.5	911.4
53°	888.7	889.5	891.5	893.0	894.6	893.0	891.5	889.5	888.7	889.5	891.5
53.5°	870.0	870.7	871.5	872.3	873.5	872.3	871.5	870.7	870.0	870.7	871.5
54°	852.3	851.6	851.6	851.2	851.2	851.2	851.6	851.6	852.3	851.6	851.6
54.5°	832.8	832.0	830.4	828.5	826.9	828.5	830.4	832.0	832.8	832.0	830.4
55°	810.9	809.3	806.9	804.2	801.9	804.2	806.9	809.3	810.9	809.3	806.9
55.5°	785.0	783.1	780.7	778.4	776.0	778.4	780.7	783.1	785.0	783.1	780.7
56°	756.1	754.9	752.5	750.2	747.5	750.2	752.5	754.9	756.1	754.9	752.5
56.5°	724.4	723.2	722.4	720.1	718.1	720.1	722.4	723.2	724.4	723.2	722.4
57°	691.1	690.3	689.9	688.0	685.6	688.0	689.9	690.3	691.1	690.3	689.9
57.5°	655.9	655.9	655.9	653.9	652.4	653.9	655.9	655.9	655.9	655.9	655.9
58°	620.3	620.7	621.1	619.9	618.3	619.9	621.1	620.7	620.3	620.7	621.1
58.5°	583.9	583.9	585.1	584.7	583.1	584.7	585.1	583.9	583.9	583.9	585.1
59°	546.7	547.5	548.7	549.1	548.7	549.1	548.7	547.5	546.7	547.5	548.7
59.5°	509.5	510.3	512.3	513.8	513.8	513.8	512.3	510.3	509.5	510.3	512.3
60°	472.0	473.5	475.9	479.0	478.6	479.0	475.9	473.5	472.0	473.5	475.9
60.5°	434.8	436.7	439.9	443.4	443.8	443.4	439.9	436.7	434.8	436.7	439.9
61°	398.8	401.1	404.3	408.2	409.3	408.2	404.3	401.1	398.8	401.1	404.3
61.5°	363.6	365.5	369.8	373.3	375.7	373.3	369.8	365.5	363.6	365.5	369.8
62°	328.3	331.1	335.8	340.1	343.2	340.1	335.8	331.1	328.3	331.1	335.8
62.5°	293.5	296.6	302.9	307.6	310.7	307.6	302.9	296.6	293.5	296.6	302.9
63°	260.2	263.8	270.8	275.9	279.4	275.9	270.8	263.8	260.2	263.8	270.8
63.5°	228.5	232.1	239.5	245.8	251.6	245.8	239.5	232.1	228.5	232.1	239.5
64°	198.0	201.9	209.4	217.6	224.2	217.6	209.4	201.9	198.0	201.9	209.4
64.5°	168.7	173.8	181.6	190.2	196.5	190.2	181.6	173.8	168.7	173.8	181.6
65°	141.3	147.9	155.4	163.6	169.1	163.6	155.4	147.9	141.3	147.9	155.4
65.5°	116.2	123.7	130.3	138.1	143.2	138.1	130.3	123.7	116.2	123.7	130.3
66°	93.1	102.1	107.2	115.1	119.8	115.1	107.2	102.1	93.1	102.1	107.2



TEST NUMBER: P776451

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	35.6	48.1	53.6	60.3	63.8	60.3	53.6	48.1	35.6	48.1	53.6
68°	20.7	33.3	40.7	45.4	49.7	45.4	40.7	33.3	20.7	33.3	40.7
68.5°	7.8	22.3	29.4	34.4	39.5	34.4	29.4	22.3	7.8	22.3	29.4
69°	3.9	13.3	18.8	23.9	29.4	23.9	18.8	13.3	3.9	13.3	18.8
69.5°	2.3	5.9	10.6	15.7	21.1	15.7	10.6	5.9	2.3	5.9	10.6
70°	1.2	2.7	5.9	9.0	12.9	9.0	5.9	2.7	1.2	2.7	5.9
70.5°	0.4	1.6	3.5	4.3	5.1	4.3	3.5	1.6	0.4	1.6	3.5
71°	0.4	0.8	2.0	2.3	2.0	2.3	2.0	0.8	0.4	0.8	2.0
71.5°	0.4	0.4	1.2	1.2	0.4	1.2	1.2	0.4	0.4	0.4	1.2
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°	0.0	0.0	0.0	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0
73.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
74°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
74.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
76°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
76.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78°	0.0	0.0	0.0	0.0	0.0	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: P776451
CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-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: P776451

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1832.3	1832.3	1832.3	1832.3	1832.3	1832.3
0.5°	1832.3	1831.9	1832.3	1832.3	1832.3	1832.3
1°	1831.9	1831.5	1831.9	1832.3	1832.3	1832.3
1.5°	1831.9	1831.5	1831.9	1831.9	1831.9	1831.9
2°	1831.1	1830.7	1831.1	1831.5	1831.5	1831.5
2.5°	1830.7	1829.9	1830.7	1830.7	1830.7	1830.3
3°	1829.9	1829.1	1829.9	1829.9	1829.9	1829.5
3.5°	1828.7	1828.3	1828.7	1828.7	1828.7	1828.7
4°	1827.6	1826.8	1827.6	1827.6	1827.6	1827.6
4.5°	1826.4	1825.6	1826.4	1826.4	1826.4	1826.4
5°	1824.8	1824.0	1824.8	1824.8	1824.8	1824.8
5.5°	1823.3	1822.5	1823.3	1823.3	1823.3	1823.3
6°	1821.3	1820.9	1821.3	1821.3	1821.7	1821.3
6.5°	1819.3	1819.0	1819.3	1819.7	1819.7	1819.3
7°	1817.4	1817.0	1817.4	1817.4	1817.4	1817.4
7.5°	1815.4	1814.6	1815.4	1815.0	1815.0	1815.0
8°	1812.7	1812.3	1812.7	1812.7	1812.7	1812.7
8.5°	1810.3	1809.6	1810.3	1810.3	1810.3	1810.3
9°	1807.6	1807.2	1807.6	1807.6	1807.6	1807.6
9.5°	1804.9	1804.1	1804.9	1804.9	1804.9	1804.5
10°	1801.7	1801.3	1801.7	1801.7	1801.7	1801.7
10.5°	1798.6	1798.2	1798.6	1798.6	1798.6	1798.6
11°	1795.5	1794.7	1795.5	1795.1	1795.1	1795.1
11.5°	1792.0	1791.2	1792.0	1791.6	1791.6	1791.6
12°	1788.0	1787.6	1788.0	1788.0	1788.0	1788.0
12.5°	1784.5	1783.7	1784.5	1784.1	1784.1	1784.1
13°	1780.2	1779.8	1780.2	1780.2	1780.2	1780.2
13.5°	1776.3	1775.5	1776.3	1776.3	1776.3	1775.9
14°	1772.0	1771.2	1772.0	1772.0	1772.0	1771.6
14.5°	1767.3	1766.9	1767.3	1767.3	1767.3	1767.3
15°	1763.0	1762.2	1763.0	1762.6	1762.6	1762.6
15.5°	1757.9	1757.5	1757.9	1757.9	1757.9	1757.9
16°	1753.2	1752.4	1753.2	1753.2	1753.2	1752.8
16.5°	1748.1	1747.7	1748.1	1748.1	1747.7	1747.7
17°	1742.6	1742.2	1742.6	1743.0	1742.6	1742.6
17.5°	1737.6	1737.2	1737.6	1737.6	1737.2	1737.2
18°	1731.7	1731.3	1731.7	1731.7	1731.7	1731.7
18.5°	1726.2	1725.4	1726.2	1726.2	1725.8	1725.8
19°	1720.3	1719.6	1720.3	1720.3	1719.9	1719.9
19.5°	1714.1	1713.7	1714.1	1714.1	1714.1	1714.1
20°	1707.8	1707.4	1707.8	1707.8	1707.8	1707.8
20.5°	1701.6	1700.8	1701.6	1701.6	1701.6	1701.2
21°	1694.9	1694.5	1694.9	1694.9	1694.9	1694.9

TEST NUMBER: P776451

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1674.5	1673.8	1674.5	1674.5	1674.5	1674.2
23°	1667.1	1666.7	1667.1	1667.1	1667.1	1667.1
23.5°	1660.1	1659.3	1660.1	1660.1	1660.1	1659.7
24°	1652.2	1651.9	1652.2	1652.6	1652.2	1652.2
24.5°	1644.8	1644.0	1644.8	1645.2	1644.8	1644.4
25°	1637.0	1636.2	1637.0	1637.4	1637.0	1637.0
25.5°	1629.2	1628.4	1629.2	1629.5	1629.2	1628.8
26°	1620.9	1620.2	1620.9	1621.3	1620.9	1620.9
26.5°	1612.7	1611.9	1612.7	1613.1	1613.1	1612.7
27°	1604.5	1603.7	1604.5	1604.9	1604.5	1604.5
27.5°	1595.9	1595.1	1595.9	1596.3	1596.3	1595.9
28°	1587.3	1586.5	1587.3	1587.7	1587.7	1587.3
28.5°	1578.7	1577.9	1578.7	1579.1	1578.7	1578.7
29°	1569.7	1568.5	1569.7	1570.1	1570.1	1569.7
29.5°	1560.7	1559.5	1560.7	1561.1	1561.1	1560.7
30°	1551.3	1550.5	1551.3	1552.1	1552.1	1551.7
30.5°	1542.3	1541.1	1542.3	1542.7	1542.7	1542.7
31°	1532.5	1531.7	1532.5	1533.7	1533.3	1532.9
31.5°	1523.1	1521.9	1523.1	1523.9	1523.9	1523.5
32°	1513.7	1512.1	1513.7	1514.5	1514.5	1514.1
32.5°	1503.5	1502.4	1503.5	1504.7	1504.7	1504.3
33°	1494.1	1492.6	1494.1	1494.9	1494.9	1494.1
33.5°	1484.0	1482.4	1484.0	1485.1	1484.7	1484.4
34°	1473.8	1472.6	1473.8	1475.0	1474.6	1474.2
34.5°	1463.6	1462.4	1463.6	1464.8	1464.4	1464.0
35°	1453.4	1451.9	1453.4	1454.6	1454.2	1453.8
35.5°	1442.9	1441.3	1442.9	1444.0	1444.0	1443.3
36°	1432.3	1430.7	1432.3	1433.9	1433.5	1433.1
36.5°	1421.7	1420.2	1421.7	1423.3	1422.9	1422.5
37°	1410.8	1409.6	1410.8	1412.3	1412.0	1411.6
37.5°	1399.8	1398.3	1399.8	1401.8	1401.4	1400.6
38°	1388.9	1387.7	1388.9	1390.8	1390.0	1389.7
38.5°	1377.9	1376.3	1377.9	1379.5	1379.1	1378.3
39°	1366.6	1365.0	1366.6	1368.5	1368.1	1367.3
39.5°	1355.2	1353.3	1355.2	1356.8	1356.4	1356.0
40°	1343.5	1341.5	1343.5	1345.0	1345.0	1344.3
40.5°	1331.3	1329.8	1331.3	1333.3	1332.9	1332.5
41°	1319.6	1317.6	1319.6	1321.6	1321.2	1320.4
41.5°	1307.1	1305.5	1307.1	1309.0	1308.6	1308.3
42°	1294.6	1292.6	1294.6	1296.5	1296.1	1295.7
42.5°	1281.6	1279.7	1281.6	1283.6	1283.6	1282.8
43°	1268.3	1266.4	1268.3	1270.3	1270.3	1269.9
43.5°	1254.6	1252.7	1254.6	1256.6	1256.6	1256.2



TEST NUMBER: P776451

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1210.4	1208.5	1210.4	1212.4	1212.8	1212.8
45.5°	1194.4	1192.4	1194.4	1196.7	1197.1	1197.1
46°	1177.9	1175.6	1177.9	1180.3	1181.1	1181.1
46.5°	1160.3	1158.8	1160.3	1163.1	1163.8	1163.8
47°	1142.3	1140.4	1142.3	1144.7	1145.8	1145.8
47.5°	1123.5	1121.6	1123.5	1125.9	1127.1	1127.1
48°	1104.4	1102.8	1104.4	1106.7	1107.5	1107.5
48.5°	1084.8	1083.2	1084.8	1086.4	1087.1	1087.1
49°	1064.1	1063.3	1064.1	1065.2	1065.6	1065.6
49.5°	1042.9	1042.5	1042.9	1044.1	1043.7	1044.1
50°	1021.4	1021.0	1021.4	1022.2	1021.4	1021.0
50.5°	999.5	999.5	999.5	999.9	998.7	997.1
51°	977.6	978.4	977.6	976.4	975.2	974.4
51.5°	955.3	956.4	955.3	954.1	952.5	952.1
52°	933.7	935.7	933.7	932.2	930.6	929.8
52.5°	913.4	915.0	913.4	911.4	909.5	908.7
53°	893.0	894.6	893.0	891.5	889.5	888.7
53.5°	872.3	873.5	872.3	871.5	870.7	870.0
54°	851.2	851.2	851.2	851.6	851.6	852.3
54.5°	828.5	826.9	828.5	830.4	832.0	832.8
55°	804.2	801.9	804.2	806.9	809.3	810.9
55.5°	778.4	776.0	778.4	780.7	783.1	785.0
56°	750.2	747.5	750.2	752.5	754.9	756.1
56.5°	720.1	718.1	720.1	722.4	723.2	724.4
57°	688.0	685.6	688.0	689.9	690.3	691.1
57.5°	653.9	652.4	653.9	655.9	655.9	655.9
58°	619.9	618.3	619.9	621.1	620.7	620.3
58.5°	584.7	583.1	584.7	585.1	583.9	583.9
59°	549.1	548.7	549.1	548.7	547.5	546.7
59.5°	513.8	513.8	513.8	512.3	510.3	509.5
60°	479.0	478.6	479.0	475.9	473.5	472.0
60.5°	443.4	443.8	443.4	439.9	436.7	434.8
61°	408.2	409.3	408.2	404.3	401.1	398.8
61.5°	373.3	375.7	373.3	369.8	365.5	363.6
62°	340.1	343.2	340.1	335.8	331.1	328.3
62.5°	307.6	310.7	307.6	302.9	296.6	293.5
63°	275.9	279.4	275.9	270.8	263.8	260.2
63.5°	245.8	251.6	245.8	239.5	232.1	228.5
64°	217.6	224.2	217.6	209.4	201.9	198.0
64.5°	190.2	196.5	190.2	181.6	173.8	168.7
65°	163.6	169.1	163.6	155.4	147.9	141.3
65.5°	138.1	143.2	138.1	130.3	123.7	116.2
66°	115.1	119.8	115.1	107.2	102.1	93.1



TEST NUMBER: P776451
 CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	60.3	63.8	60.3	53.6	48.1	35.6
68°	45.4	49.7	45.4	40.7	33.3	20.7
68.5°	34.4	39.5	34.4	29.4	22.3	7.8
69°	23.9	29.4	23.9	18.8	13.3	3.9
69.5°	15.7	21.1	15.7	10.6	5.9	2.3
70°	9.0	12.9	9.0	5.9	2.7	1.2
70.5°	4.3	5.1	4.3	3.5	1.6	0.4
71°	2.3	2.0	2.3	2.0	0.8	0.4
71.5°	1.2	0.4	1.2	1.2	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	0.0	0.0	0.0
73.5°	0.0	0.0	0.0	0.0	0.0	0.0
74°	0.0	0.0	0.0	0.0	0.0	0.0
74.5°	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0
75.5°	0.0	0.0	0.0	0.0	0.0	0.0
76°	0.0	0.0	0.0	0.0	0.0	0.0
76.5°	0.0	0.0	0.0	0.0	0.0	0.0
77°	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0
78°	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
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: P776451
CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-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



Report Generated By 670245859 / DESKTOP-T8S5UU9

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

Scaled Data Report





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

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

Scaled Data Report



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

Scaled Data Report





21.5°	1688.2	1688.2	1688.2	1688.2	1687.5	1688.2	1688.2	1688.2	1688.2	1688.2	1688.2	1688.2
22°	1681.2	1681.2	1681.6	1681.6	1680.8	1681.6	1681.6	1681.2	1681.2	1681.2	1681.2	1681.6



44°	1242.1	1242.5	1242.1	1240.2	1238.6	1240.2	1242.1	1242.5	1242.1	1242.5	1242.1
44.5°	1227.6	1228.0	1228.0	1225.7	1223.3	1225.7	1228.0	1228.0	1227.6	1228.0	1228.0



66.5°	73.6	82.6	86.9	94.3	98.6	94.3	86.9	82.6	73.6	82.6	86.9
67°	54.4	63.4	69.7	75.9	79.4	75.9	69.7	63.4	54.4	63.4	69.7



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

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

Scaled Data Report



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

Scaled Data Report



21.5°	1688.2	1687.5	1688.2	1688.2	1688.2	1688.2
22°	1681.6	1680.8	1681.6	1681.6	1681.2	1681.2



44°	1240.2	1238.6	1240.2	1242.1	1242.5	1242.1
44.5°	1225.7	1223.3	1225.7	1228.0	1228.0	1227.6



66.5°	94.3	98.6	94.3	86.9	82.6	73.6
67°	75.9	79.4	75.9	69.7	63.4	54.4

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

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

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

Scaled Data Report



(END OF REPORT)