

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: P776450

Luminaire Tested: HCDJBL3040CSD-HCD81TRMB-4000lm-2700K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776450
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-2700K
Description: 8 INCH ROUND SHALLOW-WIDE MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT
Ballast/Driver: -

Summary

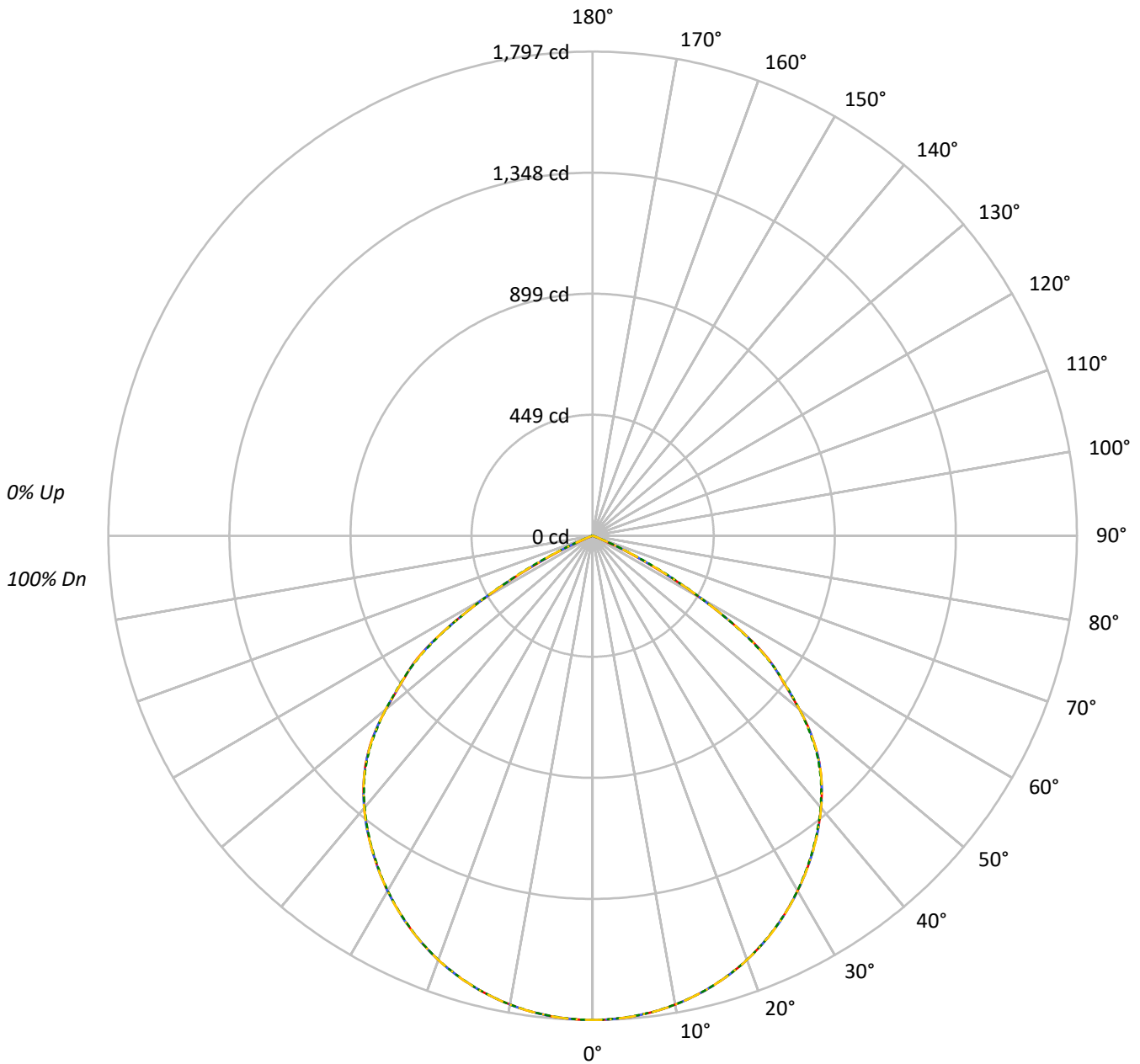
Lumens per Lamp: N/A
Luminaire Lumens: 4058.8 lumens
Efficiency: N/A
Efficacy: 105.4 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.26 / 1.37
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

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: P776450
CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-2700K

Luminous Intensity Polar Plot





TEST NUMBER: P776450

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-2700K

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	54860	54860	54860	54860
5°	54846	54821	54846	54821
10°	54776	54767	54776	54767
15°	54636	54624	54636	54624
20°	54414	54404	54414	54404
25°	54080	54053	54080	54053
30°	53645	53606	53645	53606
35°	53140	53066	53140	53066
40°	52540	52433	52540	52433
45°	51350	51168	51350	51168
50°	47558	47558	47558	47558
55°	42327	41858	42327	41858
60°	28259	28662	28259	28662
65°	10005	11978	10005	11978
70°	107	1134	107	1134
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: 51350 cd/sqm



TEST NUMBER: P776450
 CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-2700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	170.1	4.2
10°-20°	487.9	12.0
20°-30°	739.7	18.2
30°-40°	891.8	22.0
40°-50°	909.1	22.4
50°-60°	683.2	16.8
60°-70°	176.5	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°	1397.7	34.4
0°-40°	2289.5	56.4
0°-60°	3881.8	95.6
0°-90°	4058.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4058.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1797	1797	1797	1797	1797	
5°	1790	1789	1790	1789	1790	170
15°	1729	1728	1729	1728	1729	488
25°	1605	1605	1605	1605	1605	740
35°	1426	1424	1426	1424	1426	892
45°	1189	1185	1189	1185	1189	910
55°	795	786	795	786	795	683
65°	138	166	138	166	138	165
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



TEST NUMBER: P776450

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-2700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1796.9	1796.9	1796.9	1796.9	1796.9	1796.9	1796.9	1796.9	1796.9	1796.9	1796.9
0.5°	1796.9	1796.9	1796.9	1796.9	1796.5	1796.9	1796.9	1796.9	1796.9	1796.9	1796.9
1°	1796.9	1796.9	1796.9	1796.5	1796.1	1796.5	1796.9	1796.9	1796.9	1796.9	1796.9
1.5°	1796.5	1796.5	1796.5	1796.5	1796.1	1796.5	1796.5	1796.5	1796.5	1796.5	1796.5
2°	1796.1	1796.1	1796.1	1795.7	1795.3	1795.7	1796.1	1796.1	1796.1	1796.1	1796.1
2.5°	1795.0	1795.3	1795.3	1795.3	1794.6	1795.3	1795.3	1795.3	1795.0	1795.3	1795.3
3°	1794.2	1794.6	1794.6	1794.6	1793.8	1794.6	1794.6	1794.6	1794.2	1794.6	1794.6
3.5°	1793.4	1793.4	1793.4	1793.4	1793.0	1793.4	1793.4	1793.4	1793.4	1793.4	1793.4
4°	1792.3	1792.3	1792.3	1792.3	1791.5	1792.3	1792.3	1792.3	1792.3	1792.3	1792.3
4.5°	1791.1	1791.1	1791.1	1791.1	1790.4	1791.1	1791.1	1791.1	1791.1	1791.1	1791.1
5°	1789.6	1789.6	1789.6	1789.6	1788.8	1789.6	1789.6	1789.6	1789.6	1789.6	1789.6
5.5°	1788.1	1788.1	1788.1	1788.1	1787.3	1788.1	1788.1	1788.1	1788.1	1788.1	1788.1
6°	1786.1	1786.5	1786.1	1786.1	1785.7	1786.1	1786.1	1786.5	1786.1	1786.5	1786.1
6.5°	1784.2	1784.6	1784.6	1784.2	1783.8	1784.2	1784.6	1784.6	1784.2	1784.6	1784.6
7°	1782.3	1782.3	1782.3	1782.3	1781.9	1782.3	1782.3	1782.3	1782.3	1782.3	1782.3
7.5°	1780.0	1780.0	1780.0	1780.4	1779.6	1780.4	1780.0	1780.0	1780.0	1780.0	1780.0
8°	1777.7	1777.7	1777.7	1777.7	1777.3	1777.7	1777.7	1777.7	1777.7	1777.7	1777.7
8.5°	1775.4	1775.4	1775.4	1775.4	1774.6	1775.4	1775.4	1775.4	1775.4	1775.4	1775.4
9°	1772.7	1772.7	1772.7	1772.7	1772.3	1772.7	1772.7	1772.7	1772.7	1772.7	1772.7
9.5°	1769.6	1770.0	1770.0	1770.0	1769.2	1770.0	1770.0	1770.0	1769.6	1770.0	1770.0
10°	1766.9	1766.9	1766.9	1766.9	1766.6	1766.9	1766.9	1766.9	1766.9	1766.9	1766.9
10.5°	1763.9	1763.9	1763.9	1763.9	1763.5	1763.9	1763.9	1763.9	1763.9	1763.9	1763.9
11°	1760.4	1760.4	1760.4	1760.8	1760.0	1760.8	1760.4	1760.4	1760.4	1760.4	1760.4
11.5°	1757.0	1757.0	1757.0	1757.3	1756.6	1757.3	1757.0	1757.0	1757.0	1757.0	1757.0
12°	1753.5	1753.5	1753.5	1753.5	1753.1	1753.5	1753.5	1753.5	1753.5	1753.5	1753.5
12.5°	1749.7	1749.7	1749.7	1750.1	1749.3	1750.1	1749.7	1749.7	1749.7	1749.7	1749.7
13°	1745.8	1745.8	1745.8	1745.8	1745.5	1745.8	1745.8	1745.8	1745.8	1745.8	1745.8
13.5°	1741.6	1742.0	1742.0	1742.0	1741.2	1742.0	1742.0	1742.0	1741.6	1742.0	1742.0
14°	1737.4	1737.8	1737.8	1737.8	1737.0	1737.8	1737.8	1737.8	1737.4	1737.8	1737.8
14.5°	1733.2	1733.2	1733.2	1733.2	1732.8	1733.2	1733.2	1733.2	1733.2	1733.2	1733.2
15°	1728.6	1728.6	1728.6	1728.9	1728.2	1728.9	1728.6	1728.6	1728.6	1728.6	1728.6
15.5°	1724.0	1724.0	1724.0	1724.0	1723.6	1724.0	1724.0	1724.0	1724.0	1724.0	1724.0
16°	1719.0	1719.4	1719.4	1719.4	1718.6	1719.4	1719.4	1719.4	1719.0	1719.4	1719.4
16.5°	1714.0	1714.0	1714.4	1714.4	1714.0	1714.4	1714.4	1714.0	1714.0	1714.0	1714.4
17°	1709.0	1709.0	1709.4	1709.0	1708.6	1709.0	1709.4	1709.0	1709.0	1709.0	1709.4
17.5°	1703.6	1703.6	1704.0	1704.0	1703.6	1704.0	1704.0	1703.6	1703.6	1703.6	1704.0
18°	1698.2	1698.2	1698.2	1698.2	1697.9	1698.2	1698.2	1698.2	1698.2	1698.2	1698.2
18.5°	1692.5	1692.5	1692.9	1692.9	1692.1	1692.9	1692.9	1692.5	1692.5	1692.5	1692.9
19°	1686.7	1686.7	1687.1	1687.1	1686.3	1687.1	1687.1	1686.7	1686.7	1686.7	1687.1
19.5°	1681.0	1681.0	1681.0	1681.0	1680.6	1681.0	1681.0	1681.0	1681.0	1681.0	1681.0
20°	1674.8	1674.8	1674.8	1674.8	1674.5	1674.8	1674.8	1674.8	1674.8	1674.8	1674.8
20.5°	1668.3	1668.7	1668.7	1668.7	1667.9	1668.7	1668.7	1668.7	1668.3	1668.7	1668.7
21°	1662.2	1662.2	1662.2	1662.2	1661.8	1662.2	1662.2	1662.2	1662.2	1662.2	1662.2



TEST NUMBER: P776450

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	1641.8	1642.2	1642.2	1642.2	1641.4	1642.2	1642.2	1642.2	1641.8	1642.2	1642.2
23°	1634.9	1634.9	1634.9	1634.9	1634.5	1634.9	1634.9	1634.9	1634.9	1634.9	1634.9
23.5°	1627.6	1628.0	1628.0	1628.0	1627.2	1628.0	1628.0	1628.0	1627.6	1628.0	1628.0
24°	1620.3	1620.3	1620.7	1620.3	1620.0	1620.3	1620.7	1620.3	1620.3	1620.3	1620.7
24.5°	1612.7	1613.0	1613.4	1613.0	1612.3	1613.0	1613.4	1613.0	1612.7	1613.0	1613.4
25°	1605.4	1605.4	1605.8	1605.4	1604.6	1605.4	1605.8	1605.4	1605.4	1605.4	1605.8
25.5°	1597.3	1597.7	1598.1	1597.7	1596.9	1597.7	1598.1	1597.7	1597.3	1597.7	1598.1
26°	1589.6	1589.6	1590.0	1589.6	1588.9	1589.6	1590.0	1589.6	1589.6	1589.6	1590.0
26.5°	1581.6	1582.0	1582.0	1581.6	1580.8	1581.6	1582.0	1582.0	1581.6	1582.0	1582.0
27°	1573.5	1573.5	1573.9	1573.5	1572.7	1573.5	1573.9	1573.5	1573.5	1573.5	1573.9
27.5°	1565.1	1565.5	1565.5	1565.1	1564.3	1565.1	1565.5	1565.5	1565.1	1565.5	1565.5
28°	1556.6	1557.0	1557.0	1556.6	1555.9	1556.6	1557.0	1557.0	1556.6	1557.0	1557.0
28.5°	1548.2	1548.2	1548.6	1548.2	1547.4	1548.2	1548.6	1548.2	1548.2	1548.2	1548.6
29°	1539.4	1539.7	1539.7	1539.4	1538.2	1539.4	1539.7	1539.7	1539.4	1539.7	1539.7
29.5°	1530.5	1530.9	1530.9	1530.5	1529.4	1530.5	1530.9	1530.9	1530.5	1530.9	1530.9
30°	1521.7	1522.1	1522.1	1521.3	1520.6	1521.3	1522.1	1522.1	1521.7	1522.1	1522.1
30.5°	1512.9	1512.9	1512.9	1512.5	1511.3	1512.5	1512.9	1512.9	1512.9	1512.9	1512.9
31°	1503.3	1503.7	1504.1	1502.9	1502.1	1502.9	1504.1	1503.7	1503.3	1503.7	1504.1
31.5°	1494.1	1494.5	1494.5	1493.7	1492.5	1493.7	1494.5	1494.5	1494.1	1494.5	1494.5
32°	1484.9	1485.2	1485.2	1484.5	1482.9	1484.5	1485.2	1485.2	1484.9	1485.2	1485.2
32.5°	1475.3	1475.7	1475.7	1474.5	1473.3	1474.5	1475.7	1475.7	1475.3	1475.7	1475.7
33°	1465.3	1466.1	1466.1	1465.3	1463.8	1465.3	1466.1	1466.1	1465.3	1466.1	1466.1
33.5°	1455.7	1456.1	1456.5	1455.3	1453.8	1455.3	1456.5	1456.1	1455.7	1456.1	1456.5
34°	1445.7	1446.1	1446.5	1445.3	1444.2	1445.3	1446.5	1446.1	1445.7	1446.1	1446.5
34.5°	1435.7	1436.1	1436.5	1435.4	1434.2	1435.4	1436.5	1436.1	1435.7	1436.1	1436.5
35°	1425.8	1426.1	1426.5	1425.4	1423.8	1425.4	1426.5	1426.1	1425.8	1426.1	1426.5
35.5°	1415.4	1416.2	1416.2	1415.0	1413.5	1415.0	1416.2	1416.2	1415.4	1416.2	1416.2
36°	1405.4	1405.8	1406.2	1404.7	1403.1	1404.7	1406.2	1405.8	1405.4	1405.8	1406.2
36.5°	1395.1	1395.4	1395.8	1394.3	1392.8	1394.3	1395.8	1395.4	1395.1	1395.4	1395.8
37°	1384.3	1384.7	1385.1	1383.5	1382.4	1383.5	1385.1	1384.7	1384.3	1384.7	1385.1
37.5°	1373.6	1374.3	1374.7	1372.8	1371.3	1372.8	1374.7	1374.3	1373.6	1374.3	1374.7
38°	1362.8	1363.2	1364.0	1362.1	1360.9	1362.1	1364.0	1363.2	1362.8	1363.2	1364.0
38.5°	1351.7	1352.5	1352.8	1351.3	1349.8	1351.3	1352.8	1352.5	1351.7	1352.5	1352.8
39°	1340.9	1341.7	1342.1	1340.2	1338.6	1340.2	1342.1	1341.7	1340.9	1341.7	1342.1
39.5°	1329.8	1330.2	1330.6	1329.0	1327.1	1329.0	1330.6	1330.2	1329.8	1330.2	1330.6
40°	1318.3	1319.1	1319.1	1317.5	1315.6	1317.5	1319.1	1319.1	1318.3	1319.1	1319.1
40.5°	1306.8	1307.2	1307.6	1305.6	1304.1	1305.6	1307.6	1307.2	1306.8	1307.2	1307.6
41°	1294.9	1295.7	1296.0	1294.1	1292.2	1294.1	1296.0	1295.7	1294.9	1295.7	1296.0
41.5°	1283.0	1283.4	1283.8	1281.8	1280.3	1281.8	1283.8	1283.4	1283.0	1283.4	1283.8
42°	1270.7	1271.1	1271.5	1269.6	1267.6	1269.6	1271.5	1271.1	1270.7	1271.1	1271.5
42.5°	1258.0	1258.8	1258.8	1256.9	1255.0	1256.9	1258.8	1258.8	1258.0	1258.8	1258.8
43°	1245.4	1245.8	1245.8	1243.8	1241.9	1243.8	1245.8	1245.8	1245.4	1245.8	1245.8
43.5°	1231.9	1232.3	1232.3	1230.4	1228.5	1230.4	1232.3	1232.3	1231.9	1232.3	1232.3



TEST NUMBER: P776450

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1189.3	1189.3	1189.0	1187.0	1185.1	1187.0	1189.0	1189.3	1189.3	1189.3	1189.0
45.5°	1174.0	1174.0	1173.6	1171.3	1169.4	1171.3	1173.6	1174.0	1174.0	1174.0	1173.6
46°	1158.3	1158.3	1157.5	1155.2	1152.9	1155.2	1157.5	1158.3	1158.3	1158.3	1157.5
46.5°	1141.4	1141.4	1140.6	1137.9	1136.4	1137.9	1140.6	1141.4	1141.4	1141.4	1140.6
47°	1123.7	1123.7	1122.6	1120.3	1118.3	1120.3	1122.6	1123.7	1123.7	1123.7	1122.6
47.5°	1105.3	1105.3	1104.1	1101.8	1099.9	1101.8	1104.1	1105.3	1105.3	1105.3	1104.1
48°	1086.1	1086.1	1085.3	1083.0	1081.5	1083.0	1085.3	1086.1	1086.1	1086.1	1085.3
48.5°	1066.2	1066.2	1065.4	1063.9	1062.3	1063.9	1065.4	1066.2	1066.2	1066.2	1065.4
49°	1045.0	1045.0	1044.7	1043.5	1042.7	1043.5	1044.7	1045.0	1045.0	1045.0	1044.7
49.5°	1023.9	1023.6	1023.9	1022.8	1022.4	1022.8	1023.9	1023.6	1023.9	1023.6	1023.9
50°	1001.3	1001.7	1002.4	1001.7	1001.3	1001.7	1002.4	1001.7	1001.3	1001.7	1002.4
50.5°	977.9	979.4	980.6	980.2	980.2	980.2	980.6	979.4	977.9	979.4	980.6
51°	955.6	956.4	957.5	958.7	959.5	958.7	957.5	956.4	955.6	956.4	957.5
51.5°	933.7	934.1	935.7	936.8	938.0	936.8	935.7	934.1	933.7	934.1	935.7
52°	911.9	912.6	914.2	915.7	917.6	915.7	914.2	912.6	911.9	912.6	914.2
52.5°	891.1	891.9	893.8	895.8	897.3	895.8	893.8	891.9	891.1	891.9	893.8
53°	871.6	872.3	874.3	875.8	877.3	875.8	874.3	872.3	871.6	872.3	874.3
53.5°	853.2	853.9	854.7	855.5	856.6	855.5	854.7	853.9	853.2	853.9	854.7
54°	835.9	835.1	835.1	834.7	834.7	834.7	835.1	835.1	835.9	835.1	835.1
54.5°	816.7	815.9	814.4	812.5	810.9	812.5	814.4	815.9	816.7	815.9	814.4
55°	795.2	793.7	791.4	788.7	786.4	788.7	791.4	793.7	795.2	793.7	791.4
55.5°	769.9	768.0	765.7	763.3	761.0	763.3	765.7	768.0	769.9	768.0	765.7
56°	741.5	740.3	738.0	735.7	733.0	735.7	738.0	740.3	741.5	740.3	738.0
56.5°	710.4	709.2	708.5	706.2	704.2	706.2	708.5	709.2	710.4	709.2	708.5
57°	677.8	677.0	676.6	674.7	672.4	674.7	676.6	677.0	677.8	677.0	676.6
57.5°	643.2	643.2	643.2	641.3	639.8	641.3	643.2	643.2	643.2	643.2	643.2
58°	608.3	608.7	609.1	607.9	606.4	607.9	609.1	608.7	608.3	608.7	609.1
58.5°	572.6	572.6	573.8	573.4	571.8	573.4	573.8	572.6	572.6	572.6	573.8
59°	536.1	536.9	538.1	538.4	538.1	538.4	538.1	536.9	536.1	536.9	538.1
59.5°	499.7	500.5	502.4	503.9	503.9	503.9	502.4	500.5	499.7	500.5	502.4
60°	462.8	464.4	466.7	469.8	469.4	469.8	466.7	464.4	462.8	464.4	466.7
60.5°	426.4	428.3	431.4	434.8	435.2	434.8	431.4	428.3	426.4	428.3	431.4
61°	391.1	393.4	396.4	400.3	401.4	400.3	396.4	393.4	391.1	393.4	396.4
61.5°	356.5	358.5	362.7	366.1	368.4	366.1	362.7	358.5	356.5	358.5	362.7
62°	322.0	324.7	329.3	333.5	336.6	333.5	329.3	324.7	322.0	324.7	329.3
62.5°	287.8	290.9	297.0	301.7	304.7	301.7	297.0	290.9	287.8	290.9	297.0
63°	255.2	258.7	265.6	270.6	274.0	270.6	265.6	258.7	255.2	258.7	265.6
63.5°	224.1	227.6	234.9	241.0	246.8	241.0	234.9	227.6	224.1	227.6	234.9
64°	194.2	198.0	205.3	213.4	219.9	213.4	205.3	198.0	194.2	198.0	205.3
64.5°	165.4	170.4	178.1	186.5	192.7	186.5	178.1	170.4	165.4	170.4	178.1
65°	138.5	145.1	152.4	160.4	165.8	160.4	152.4	145.1	138.5	145.1	152.4
65.5°	114.0	121.3	127.8	135.5	140.5	135.5	127.8	121.3	114.0	121.3	127.8
66°	91.3	100.2	105.2	112.8	117.4	112.8	105.2	100.2	91.3	100.2	105.2



TEST NUMBER: P776450

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	34.9	47.2	52.6	59.1	62.6	59.1	52.6	47.2	34.9	47.2	52.6
68°	20.3	32.6	39.9	44.5	48.7	44.5	39.9	32.6	20.3	32.6	39.9
68.5°	7.7	21.9	28.8	33.8	38.8	33.8	28.8	21.9	7.7	21.9	28.8
69°	3.8	13.0	18.4	23.4	28.8	23.4	18.4	13.0	3.8	13.0	18.4
69.5°	2.3	5.8	10.4	15.4	20.7	15.4	10.4	5.8	2.3	5.8	10.4
70°	1.2	2.7	5.8	8.8	12.7	8.8	5.8	2.7	1.2	2.7	5.8
70.5°	0.4	1.5	3.5	4.2	5.0	4.2	3.5	1.5	0.4	1.5	3.5
71°	0.4	0.8	1.9	2.3	1.9	2.3	1.9	0.8	0.4	0.8	1.9
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: P776450
CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-2700K

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: P776450

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1796.9	1796.9	1796.9	1796.9	1796.9	1796.9
0.5°	1796.9	1796.5	1796.9	1796.9	1796.9	1796.9
1°	1796.5	1796.1	1796.5	1796.9	1796.9	1796.9
1.5°	1796.5	1796.1	1796.5	1796.5	1796.5	1796.5
2°	1795.7	1795.3	1795.7	1796.1	1796.1	1796.1
2.5°	1795.3	1794.6	1795.3	1795.3	1795.3	1795.0
3°	1794.6	1793.8	1794.6	1794.6	1794.6	1794.2
3.5°	1793.4	1793.0	1793.4	1793.4	1793.4	1793.4
4°	1792.3	1791.5	1792.3	1792.3	1792.3	1792.3
4.5°	1791.1	1790.4	1791.1	1791.1	1791.1	1791.1
5°	1789.6	1788.8	1789.6	1789.6	1789.6	1789.6
5.5°	1788.1	1787.3	1788.1	1788.1	1788.1	1788.1
6°	1786.1	1785.7	1786.1	1786.1	1786.5	1786.1
6.5°	1784.2	1783.8	1784.2	1784.6	1784.6	1784.2
7°	1782.3	1781.9	1782.3	1782.3	1782.3	1782.3
7.5°	1780.4	1779.6	1780.4	1780.0	1780.0	1780.0
8°	1777.7	1777.3	1777.7	1777.7	1777.7	1777.7
8.5°	1775.4	1774.6	1775.4	1775.4	1775.4	1775.4
9°	1772.7	1772.3	1772.7	1772.7	1772.7	1772.7
9.5°	1770.0	1769.2	1770.0	1770.0	1770.0	1769.6
10°	1766.9	1766.6	1766.9	1766.9	1766.9	1766.9
10.5°	1763.9	1763.5	1763.9	1763.9	1763.9	1763.9
11°	1760.8	1760.0	1760.8	1760.4	1760.4	1760.4
11.5°	1757.3	1756.6	1757.3	1757.0	1757.0	1757.0
12°	1753.5	1753.1	1753.5	1753.5	1753.5	1753.5
12.5°	1750.1	1749.3	1750.1	1749.7	1749.7	1749.7
13°	1745.8	1745.5	1745.8	1745.8	1745.8	1745.8
13.5°	1742.0	1741.2	1742.0	1742.0	1742.0	1741.6
14°	1737.8	1737.0	1737.8	1737.8	1737.8	1737.4
14.5°	1733.2	1732.8	1733.2	1733.2	1733.2	1733.2
15°	1728.9	1728.2	1728.9	1728.6	1728.6	1728.6
15.5°	1724.0	1723.6	1724.0	1724.0	1724.0	1724.0
16°	1719.4	1718.6	1719.4	1719.4	1719.4	1719.0
16.5°	1714.4	1714.0	1714.4	1714.4	1714.0	1714.0
17°	1709.0	1708.6	1709.0	1709.4	1709.0	1709.0
17.5°	1704.0	1703.6	1704.0	1704.0	1703.6	1703.6
18°	1698.2	1697.9	1698.2	1698.2	1698.2	1698.2
18.5°	1692.9	1692.1	1692.9	1692.9	1692.5	1692.5
19°	1687.1	1686.3	1687.1	1687.1	1686.7	1686.7
19.5°	1681.0	1680.6	1681.0	1681.0	1681.0	1681.0
20°	1674.8	1674.5	1674.8	1674.8	1674.8	1674.8
20.5°	1668.7	1667.9	1668.7	1668.7	1668.7	1668.3
21°	1662.2	1661.8	1662.2	1662.2	1662.2	1662.2



TEST NUMBER: P776450

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1642.2	1641.4	1642.2	1642.2	1642.2	1641.8
23°	1634.9	1634.5	1634.9	1634.9	1634.9	1634.9
23.5°	1628.0	1627.2	1628.0	1628.0	1628.0	1627.6
24°	1620.3	1620.0	1620.3	1620.7	1620.3	1620.3
24.5°	1613.0	1612.3	1613.0	1613.4	1613.0	1612.7
25°	1605.4	1604.6	1605.4	1605.8	1605.4	1605.4
25.5°	1597.7	1596.9	1597.7	1598.1	1597.7	1597.3
26°	1589.6	1588.9	1589.6	1590.0	1589.6	1589.6
26.5°	1581.6	1580.8	1581.6	1582.0	1582.0	1581.6
27°	1573.5	1572.7	1573.5	1573.9	1573.5	1573.5
27.5°	1565.1	1564.3	1565.1	1565.5	1565.5	1565.1
28°	1556.6	1555.9	1556.6	1557.0	1557.0	1556.6
28.5°	1548.2	1547.4	1548.2	1548.6	1548.2	1548.2
29°	1539.4	1538.2	1539.4	1539.7	1539.7	1539.4
29.5°	1530.5	1529.4	1530.5	1530.9	1530.9	1530.5
30°	1521.3	1520.6	1521.3	1522.1	1522.1	1521.7
30.5°	1512.5	1511.3	1512.5	1512.9	1512.9	1512.9
31°	1502.9	1502.1	1502.9	1504.1	1503.7	1503.3
31.5°	1493.7	1492.5	1493.7	1494.5	1494.5	1494.1
32°	1484.5	1482.9	1484.5	1485.2	1485.2	1484.9
32.5°	1474.5	1473.3	1474.5	1475.7	1475.7	1475.3
33°	1465.3	1463.8	1465.3	1466.1	1466.1	1465.3
33.5°	1455.3	1453.8	1455.3	1456.5	1456.1	1455.7
34°	1445.3	1444.2	1445.3	1446.5	1446.1	1445.7
34.5°	1435.4	1434.2	1435.4	1436.5	1436.1	1435.7
35°	1425.4	1423.8	1425.4	1426.5	1426.1	1425.8
35.5°	1415.0	1413.5	1415.0	1416.2	1416.2	1415.4
36°	1404.7	1403.1	1404.7	1406.2	1405.8	1405.4
36.5°	1394.3	1392.8	1394.3	1395.8	1395.4	1395.1
37°	1383.5	1382.4	1383.5	1385.1	1384.7	1384.3
37.5°	1372.8	1371.3	1372.8	1374.7	1374.3	1373.6
38°	1362.1	1360.9	1362.1	1364.0	1363.2	1362.8
38.5°	1351.3	1349.8	1351.3	1352.8	1352.5	1351.7
39°	1340.2	1338.6	1340.2	1342.1	1341.7	1340.9
39.5°	1329.0	1327.1	1329.0	1330.6	1330.2	1329.8
40°	1317.5	1315.6	1317.5	1319.1	1319.1	1318.3
40.5°	1305.6	1304.1	1305.6	1307.6	1307.2	1306.8
41°	1294.1	1292.2	1294.1	1296.0	1295.7	1294.9
41.5°	1281.8	1280.3	1281.8	1283.8	1283.4	1283.0
42°	1269.6	1267.6	1269.6	1271.5	1271.1	1270.7
42.5°	1256.9	1255.0	1256.9	1258.8	1258.8	1258.0
43°	1243.8	1241.9	1243.8	1245.8	1245.8	1245.4
43.5°	1230.4	1228.5	1230.4	1232.3	1232.3	1231.9

TEST NUMBER: P776450

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1187.0	1185.1	1187.0	1189.0	1189.3	1189.3
45.5°	1171.3	1169.4	1171.3	1173.6	1174.0	1174.0
46°	1155.2	1152.9	1155.2	1157.5	1158.3	1158.3
46.5°	1137.9	1136.4	1137.9	1140.6	1141.4	1141.4
47°	1120.3	1118.3	1120.3	1122.6	1123.7	1123.7
47.5°	1101.8	1099.9	1101.8	1104.1	1105.3	1105.3
48°	1083.0	1081.5	1083.0	1085.3	1086.1	1086.1
48.5°	1063.9	1062.3	1063.9	1065.4	1066.2	1066.2
49°	1043.5	1042.7	1043.5	1044.7	1045.0	1045.0
49.5°	1022.8	1022.4	1022.8	1023.9	1023.6	1023.9
50°	1001.7	1001.3	1001.7	1002.4	1001.7	1001.3
50.5°	980.2	980.2	980.2	980.6	979.4	977.9
51°	958.7	959.5	958.7	957.5	956.4	955.6
51.5°	936.8	938.0	936.8	935.7	934.1	933.7
52°	915.7	917.6	915.7	914.2	912.6	911.9
52.5°	895.8	897.3	895.8	893.8	891.9	891.1
53°	875.8	877.3	875.8	874.3	872.3	871.6
53.5°	855.5	856.6	855.5	854.7	853.9	853.2
54°	834.7	834.7	834.7	835.1	835.1	835.9
54.5°	812.5	810.9	812.5	814.4	815.9	816.7
55°	788.7	786.4	788.7	791.4	793.7	795.2
55.5°	763.3	761.0	763.3	765.7	768.0	769.9
56°	735.7	733.0	735.7	738.0	740.3	741.5
56.5°	706.2	704.2	706.2	708.5	709.2	710.4
57°	674.7	672.4	674.7	676.6	677.0	677.8
57.5°	641.3	639.8	641.3	643.2	643.2	643.2
58°	607.9	606.4	607.9	609.1	608.7	608.3
58.5°	573.4	571.8	573.4	573.8	572.6	572.6
59°	538.4	538.1	538.4	538.1	536.9	536.1
59.5°	503.9	503.9	503.9	502.4	500.5	499.7
60°	469.8	469.4	469.8	466.7	464.4	462.8
60.5°	434.8	435.2	434.8	431.4	428.3	426.4
61°	400.3	401.4	400.3	396.4	393.4	391.1
61.5°	366.1	368.4	366.1	362.7	358.5	356.5
62°	333.5	336.6	333.5	329.3	324.7	322.0
62.5°	301.7	304.7	301.7	297.0	290.9	287.8
63°	270.6	274.0	270.6	265.6	258.7	255.2
63.5°	241.0	246.8	241.0	234.9	227.6	224.1
64°	213.4	219.9	213.4	205.3	198.0	194.2
64.5°	186.5	192.7	186.5	178.1	170.4	165.4
65°	160.4	165.8	160.4	152.4	145.1	138.5
65.5°	135.5	140.5	135.5	127.8	121.3	114.0
66°	112.8	117.4	112.8	105.2	100.2	91.3



TEST NUMBER: P776450

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	59.1	62.6	59.1	52.6	47.2	34.9
68°	44.5	48.7	44.5	39.9	32.6	20.3
68.5°	33.8	38.8	33.8	28.8	21.9	7.7
69°	23.4	28.8	23.4	18.4	13.0	3.8
69.5°	15.4	20.7	15.4	10.4	5.8	2.3
70°	8.8	12.7	8.8	5.8	2.7	1.2
70.5°	4.2	5.0	4.2	3.5	1.5	0.4
71°	2.3	1.9	2.3	1.9	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: P776450
CATALOG NUMBER: HCDJBL3040CSD-HCD81TRMB-4000lm-2700K

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°	1655.6	1655.6	1655.6	1655.6	1654.9	1655.6	1655.6	1655.6	1655.6	1655.6	1655.6	1655.6
22°	1648.7	1648.7	1649.1	1649.1	1648.4	1649.1	1649.1	1648.7	1648.7	1648.7	1648.7	1649.1



44°	1218.1	1218.5	1218.1	1216.2	1214.7	1216.2	1218.1	1218.5	1218.1	1218.5	1218.1
44.5°	1203.9	1204.3	1204.3	1202.0	1199.7	1202.0	1204.3	1204.3	1203.9	1204.3	1204.3



66.5°	72.2	81.0	85.2	92.5	96.7	92.5	85.2	81.0	72.2	81.0	85.2
67°	53.3	62.2	68.3	74.5	77.9	74.5	68.3	62.2	53.3	62.2	68.3



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





21.5°	1655.6	1654.9	1655.6	1655.6	1655.6	1655.6
22°	1649.1	1648.4	1649.1	1649.1	1648.7	1648.7



44°	1216.2	1214.7	1216.2	1218.1	1218.5	1218.1
44.5°	1202.0	1199.7	1202.0	1204.3	1204.3	1203.9

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

Scaled Data Report



66.5°	92.5	96.7	92.5	85.2	81.0	72.2
67°	74.5	77.9	74.5	68.3	62.2	53.3

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)