

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: P776440

Luminaire Tested: HCDJBL3040CSD-HCD81TRH-4000lm-2700K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776440
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B043-HCD81TRH)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD81TRH-4000lm-2700K
Description: 8 INCH ROUND SHALLOW-WIDE HAZE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4664.9 lumens
Efficiency: N/A
Efficacy: 121.2 lumens/watt
Spacing Criteria (0/90/45): 1.42 / 1.42 / 1.43
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

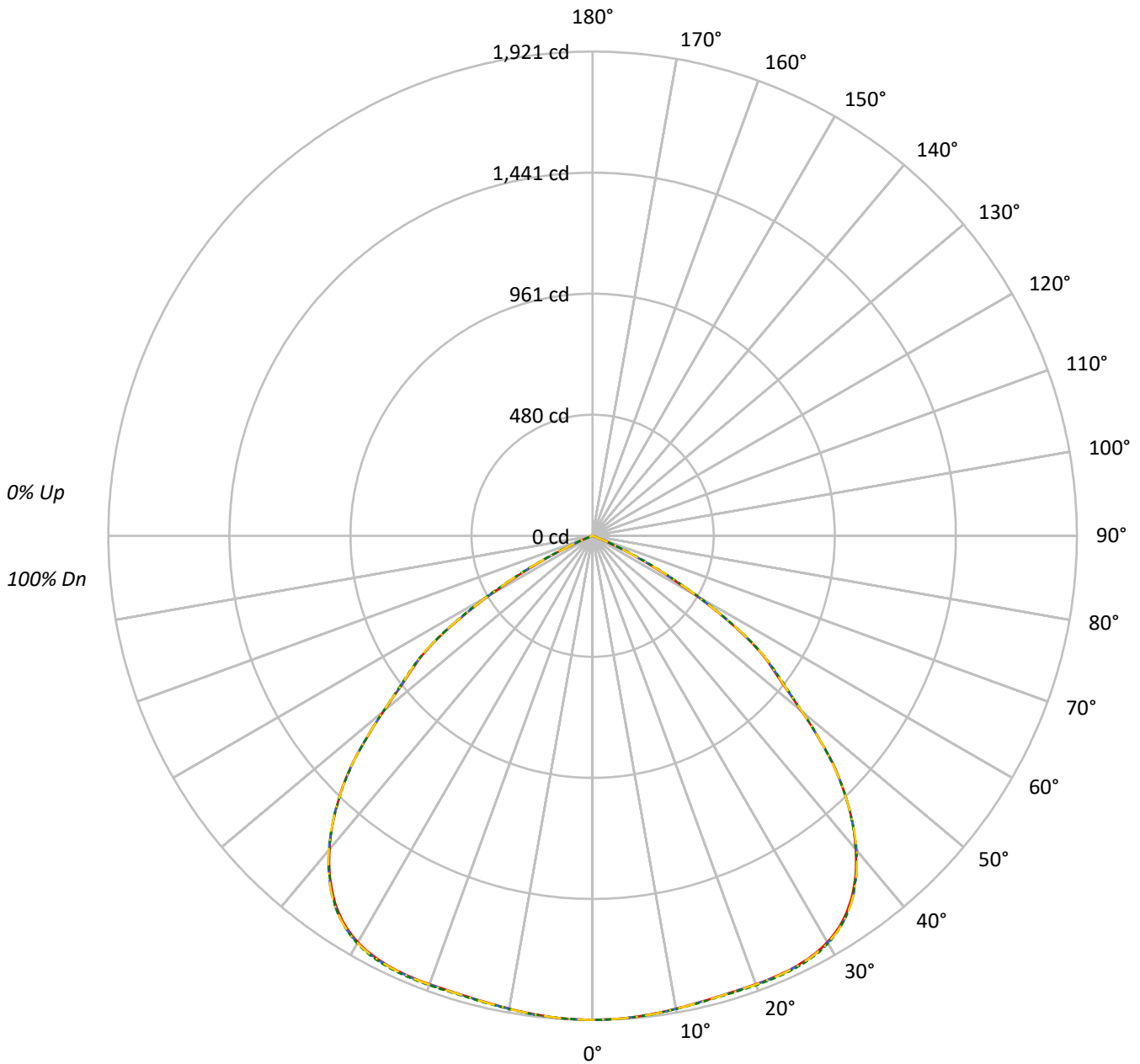
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P776440

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRH-4000lm-2700K

Luminous Intensity Polar Plot





TEST NUMBER: P776440

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRH-4000lm-2700K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	112	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	91	89																			
2	103	97	91	87	101	95	90	86	92	87	84	88	85	82	86	83	80	78																			
3	96	87	80	75	93	85	79	74	82	77	73	80	75	71	77	74	70	68																			
4	88	78	70	65	86	77	70	64	74	68	63	72	67	63	70	66	62	60																			
5	82	70	62	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53																			
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	53	48	47																			
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	41																			
8	65	53	45	40	64	52	45	40	51	44	39	50	44	39	49	43	39	37																			
9	61	49	41	36	60	48	41	36	47	40	36	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°	58636	58636	58636	58636
5°	58719	58744	58719	58744
10°	59067	59113	59067	59113
15°	59893	59978	59893	59978
20°	61503	61639	61503	61639
25°	63651	63832	63651	63832
30°	65638	65829	65638	65829
35°	66330	66472	66330	66472
40°	64716	64744	64716	64744
45°	60361	60274	60361	60274
50°	51220	51586	51220	51586
55°	43785	44030	43785	44030
60°	28796	29926	28796	29926
65°	10157	12238	10157	12238
70°	170	928	170	928
75°	47	47	47	47
80°	0	70	0	70
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 60361 cd/sqm



TEST NUMBER: P776440
 CATALOG NUMBER: HCDJBL3040CSD-HCD81TRH-4000lm-2700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.6	3.9
10°-20°	537.8	11.5
20°-30°	873.6	18.7
30°-40°	1109.2	23.8
40°-50°	1063.8	22.8
50°-60°	716.0	15.3
60°-70°	181.1	3.9
70°-80°	0.8	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°	1594.0	34.2
0°-40°	2703.2	57.9
0°-60°	4483.0	96.1
0°-90°	4664.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4664.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1921	1921	1921	1921	1921	
5°	1916	1917	1916	1917	1916	183
15°	1895	1898	1895	1898	1895	537
25°	1890	1895	1890	1895	1890	872
35°	1780	1784	1780	1784	1780	1107
45°	1398	1396	1398	1396	1398	1064
55°	823	827	823	827	823	711
65°	141	169	141	169	141	168
75°	0	0	0	0	0	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



TEST NUMBER: P776440

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRH-4000lm-2700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1920.6	1920.6	1920.6	1920.6	1920.6	1920.6	1920.6	1920.6	1920.6	1920.6	1920.6
0.5°	1920.3	1920.3	1920.6	1921.0	1920.6	1921.0	1920.6	1920.3	1920.3	1920.3	1920.6
1°	1920.3	1920.3	1920.6	1921.0	1920.3	1921.0	1920.6	1920.3	1920.3	1920.3	1920.6
1.5°	1919.9	1919.9	1920.3	1920.6	1920.3	1920.6	1920.3	1919.9	1919.9	1919.9	1920.3
2°	1919.5	1919.5	1920.3	1920.3	1919.9	1920.3	1920.3	1919.5	1919.5	1919.5	1920.3
2.5°	1919.1	1919.5	1919.9	1920.3	1919.5	1920.3	1919.9	1919.5	1919.1	1919.5	1919.9
3°	1918.7	1918.7	1919.5	1919.5	1919.1	1919.5	1919.5	1918.7	1918.7	1918.7	1919.5
3.5°	1918.0	1918.3	1918.7	1919.1	1918.7	1919.1	1918.7	1918.3	1918.0	1918.3	1918.7
4°	1917.6	1917.6	1918.0	1918.7	1918.0	1918.7	1918.0	1917.6	1917.6	1917.6	1918.0
4.5°	1916.8	1917.2	1917.6	1918.0	1917.6	1918.0	1917.6	1917.2	1916.8	1917.2	1917.6
5°	1916.0	1916.4	1916.8	1917.2	1916.8	1917.2	1916.8	1916.4	1916.0	1916.4	1916.8
5.5°	1915.3	1915.3	1916.0	1916.4	1916.0	1916.4	1916.0	1915.3	1915.3	1915.3	1916.0
6°	1914.1	1914.5	1914.9	1915.7	1915.3	1915.7	1914.9	1914.5	1914.1	1914.5	1914.9
6.5°	1913.3	1913.7	1914.1	1914.9	1914.1	1914.9	1914.1	1913.7	1913.3	1913.7	1914.1
7°	1912.2	1912.6	1913.3	1913.7	1913.3	1913.7	1913.3	1912.6	1912.2	1912.6	1913.3
7.5°	1911.0	1911.4	1912.2	1912.6	1912.2	1912.6	1912.2	1911.4	1911.0	1911.4	1912.2
8°	1910.3	1910.3	1911.0	1911.8	1911.4	1911.8	1911.0	1910.3	1910.3	1910.3	1911.0
8.5°	1909.1	1909.1	1909.9	1910.3	1910.3	1910.3	1909.9	1909.1	1909.1	1909.1	1909.9
9°	1907.6	1908.0	1908.7	1909.5	1909.1	1909.5	1908.7	1908.0	1907.6	1908.0	1908.7
9.5°	1906.4	1906.8	1907.6	1908.4	1908.0	1908.4	1907.6	1906.8	1906.4	1906.8	1907.6
10°	1905.3	1905.7	1906.4	1907.2	1906.8	1907.2	1906.4	1905.7	1905.3	1905.7	1906.4
10.5°	1904.1	1904.5	1904.9	1906.1	1905.7	1906.1	1904.9	1904.5	1904.1	1904.5	1904.9
11°	1903.0	1903.0	1903.7	1904.9	1904.5	1904.9	1903.7	1903.0	1903.0	1903.0	1903.7
11.5°	1901.8	1901.8	1902.6	1903.7	1903.4	1903.7	1902.6	1901.8	1901.8	1901.8	1902.6
12°	1900.7	1900.7	1901.4	1902.6	1902.6	1902.6	1901.4	1900.7	1900.7	1900.7	1901.4
12.5°	1899.5	1899.5	1900.7	1901.4	1901.4	1901.4	1900.7	1899.5	1899.5	1899.5	1900.7
13°	1898.4	1898.8	1899.5	1900.3	1900.7	1900.3	1899.5	1898.8	1898.4	1898.8	1899.5
13.5°	1897.2	1897.6	1898.8	1899.5	1899.5	1899.5	1898.8	1897.6	1897.2	1897.6	1898.8
14°	1896.5	1896.8	1897.6	1898.8	1898.8	1898.8	1897.6	1896.8	1896.5	1896.8	1897.6
14.5°	1895.7	1896.1	1896.8	1898.0	1898.4	1898.0	1896.8	1896.1	1895.7	1896.1	1896.8
15°	1894.9	1895.3	1896.1	1897.6	1897.6	1897.6	1896.1	1895.3	1894.9	1895.3	1896.1
15.5°	1894.1	1894.5	1895.7	1896.8	1897.2	1896.8	1895.7	1894.5	1894.1	1894.5	1895.7
16°	1893.8	1894.1	1894.9	1896.5	1896.8	1896.5	1894.9	1894.1	1893.8	1894.1	1894.9
16.5°	1893.4	1893.8	1894.5	1896.1	1896.5	1896.1	1894.5	1893.8	1893.4	1893.8	1894.5
17°	1893.0	1893.4	1894.5	1896.1	1896.5	1896.1	1894.5	1893.4	1893.0	1893.4	1894.5
17.5°	1893.0	1893.4	1894.1	1896.1	1896.5	1896.1	1894.1	1893.4	1893.0	1893.4	1894.1
18°	1892.6	1893.0	1894.1	1896.1	1896.5	1896.1	1894.1	1893.0	1892.6	1893.0	1894.1
18.5°	1892.6	1893.0	1894.1	1896.1	1896.5	1896.1	1894.1	1893.0	1892.6	1893.0	1894.1
19°	1893.0	1893.0	1894.1	1896.5	1896.8	1896.5	1894.1	1893.0	1893.0	1893.0	1894.1
19.5°	1893.0	1893.4	1894.5	1896.5	1897.2	1896.5	1894.5	1893.4	1893.0	1893.4	1894.5
20°	1893.0	1893.4	1894.5	1896.8	1897.2	1896.8	1894.5	1893.4	1893.0	1893.4	1894.5
20.5°	1893.4	1893.4	1894.9	1896.8	1897.6	1896.8	1894.9	1893.4	1893.4	1893.4	1894.9
21°	1893.4	1893.8	1894.9	1897.2	1897.6	1897.2	1894.9	1893.8	1893.4	1893.8	1894.9



TEST NUMBER: P776440

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRH-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	1893.0	1893.4	1894.9	1897.2	1898.0	1897.2	1894.9	1893.4	1893.0	1893.4	1894.9
23°	1892.6	1893.0	1894.5	1896.8	1897.6	1896.8	1894.5	1893.0	1892.6	1893.0	1894.5
23.5°	1892.2	1892.6	1894.1	1896.5	1897.2	1896.5	1894.1	1892.6	1892.2	1892.6	1894.1
24°	1891.8	1891.8	1893.4	1896.1	1896.8	1896.1	1893.4	1891.8	1891.8	1891.8	1893.4
24.5°	1890.7	1891.1	1892.6	1895.3	1896.1	1895.3	1892.6	1891.1	1890.7	1891.1	1892.6
25°	1889.5	1889.9	1891.8	1894.5	1894.9	1894.5	1891.8	1889.9	1889.5	1889.9	1891.8
25.5°	1888.4	1888.8	1890.7	1893.4	1893.8	1893.4	1890.7	1888.8	1888.4	1888.8	1890.7
26°	1886.8	1887.2	1889.2	1891.8	1892.6	1891.8	1889.2	1887.2	1886.8	1887.2	1889.2
26.5°	1884.9	1885.3	1887.6	1890.3	1890.7	1890.3	1887.6	1885.3	1884.9	1885.3	1887.6
27°	1883.0	1883.4	1885.3	1888.0	1888.4	1888.0	1885.3	1883.4	1883.0	1883.4	1885.3
27.5°	1880.3	1881.1	1883.0	1885.7	1886.1	1885.7	1883.0	1881.1	1880.3	1881.1	1883.0
28°	1877.6	1878.0	1880.3	1883.0	1883.4	1883.0	1880.3	1878.0	1877.6	1878.0	1880.3
28.5°	1874.6	1874.9	1877.2	1879.9	1879.9	1879.9	1877.2	1874.9	1874.6	1874.9	1877.2
29°	1870.7	1871.5	1873.8	1876.1	1876.5	1876.1	1873.8	1871.5	1870.7	1871.5	1873.8
29.5°	1866.5	1867.3	1870.0	1872.3	1872.3	1872.3	1870.0	1867.3	1866.5	1867.3	1870.0
30°	1861.9	1862.7	1865.3	1867.6	1867.3	1867.6	1865.3	1862.7	1861.9	1862.7	1865.3
30.5°	1856.9	1857.7	1860.3	1862.7	1862.3	1862.7	1860.3	1857.7	1856.9	1857.7	1860.3
31°	1851.1	1851.9	1855.0	1856.9	1856.1	1856.9	1855.0	1851.9	1851.1	1851.9	1855.0
31.5°	1844.6	1845.8	1848.8	1850.4	1849.6	1850.4	1848.8	1845.8	1844.6	1845.8	1848.8
32°	1837.3	1838.8	1841.9	1843.5	1842.7	1843.5	1841.9	1838.8	1837.3	1838.8	1841.9
32.5°	1829.6	1831.2	1834.2	1835.4	1834.6	1835.4	1834.2	1831.2	1829.6	1831.2	1834.2
33°	1821.2	1822.7	1826.2	1826.9	1825.8	1826.9	1826.2	1822.7	1821.2	1822.7	1826.2
33.5°	1811.6	1813.5	1817.0	1817.7	1816.6	1817.7	1817.0	1813.5	1811.6	1813.5	1817.0
34°	1802.0	1803.9	1807.4	1807.7	1806.2	1807.7	1807.4	1803.9	1802.0	1803.9	1807.4
34.5°	1790.8	1793.1	1796.6	1796.6	1795.1	1796.6	1796.6	1793.1	1790.8	1793.1	1796.6
35°	1779.7	1781.6	1785.5	1785.1	1783.5	1785.1	1785.5	1781.6	1779.7	1781.6	1785.5
35.5°	1767.4	1769.3	1773.2	1772.8	1771.2	1772.8	1773.2	1769.3	1767.4	1769.3	1773.2
36°	1754.4	1756.7	1760.5	1759.7	1757.8	1759.7	1760.5	1756.7	1754.4	1756.7	1760.5
36.5°	1740.9	1742.8	1746.7	1745.9	1743.6	1745.9	1746.7	1742.8	1740.9	1742.8	1746.7
37°	1725.9	1728.2	1731.7	1731.3	1729.0	1731.3	1731.7	1728.2	1725.9	1728.2	1731.7
37.5°	1711.0	1712.9	1716.7	1715.6	1713.3	1715.6	1716.7	1712.9	1711.0	1712.9	1716.7
38°	1694.8	1697.1	1700.6	1699.4	1696.7	1699.4	1700.6	1697.1	1694.8	1697.1	1700.6
38.5°	1677.9	1680.2	1683.7	1682.1	1679.8	1682.1	1683.7	1680.2	1677.9	1680.2	1683.7
39°	1661.0	1662.9	1666.0	1664.9	1662.2	1664.9	1666.0	1662.9	1661.0	1662.9	1666.0
39.5°	1643.0	1644.5	1647.6	1646.4	1643.7	1646.4	1647.6	1644.5	1643.0	1644.5	1647.6
40°	1623.8	1625.3	1628.4	1627.2	1624.5	1627.2	1628.4	1625.3	1623.8	1625.3	1628.4
40.5°	1604.6	1605.7	1608.4	1607.3	1604.6	1607.3	1608.4	1605.7	1604.6	1605.7	1608.4
41°	1584.2	1585.4	1587.7	1586.9	1584.2	1586.9	1587.7	1585.4	1584.2	1585.4	1587.7
41.5°	1563.5	1564.2	1566.5	1565.0	1563.1	1565.0	1566.5	1564.2	1563.5	1564.2	1566.5
42°	1542.0	1542.7	1544.3	1543.5	1541.6	1543.5	1544.3	1542.7	1542.0	1542.7	1544.3
42.5°	1520.1	1520.1	1521.6	1520.8	1518.9	1520.8	1521.6	1520.1	1520.1	1520.1	1521.6
43°	1497.0	1497.0	1498.2	1497.4	1495.5	1497.4	1498.2	1497.0	1497.0	1497.0	1498.2
43.5°	1473.2	1473.2	1473.6	1472.8	1471.7	1472.8	1473.6	1473.2	1473.2	1473.2	1473.6



TEST NUMBER: P776440

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRH-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1398.0	1396.8	1396.8	1396.4	1396.0	1396.4	1396.8	1396.8	1398.0	1396.8	1396.8
45.5°	1371.1	1369.9	1369.5	1369.1	1368.8	1369.1	1369.5	1369.9	1371.1	1369.9	1369.5
46°	1343.4	1341.9	1341.5	1341.5	1341.1	1341.5	1341.5	1341.9	1343.4	1341.9	1341.5
46.5°	1314.6	1313.1	1312.7	1312.3	1311.9	1312.3	1312.7	1313.1	1314.6	1313.1	1312.7
47°	1283.9	1282.4	1281.2	1280.4	1279.7	1280.4	1281.2	1282.4	1283.9	1282.4	1281.2
47.5°	1250.5	1248.9	1247.4	1247.8	1247.4	1247.8	1247.4	1248.9	1250.5	1248.9	1247.4
48°	1215.1	1214.8	1215.5	1215.9	1216.3	1215.9	1215.5	1214.8	1215.1	1214.8	1215.5
48.5°	1181.3	1181.3	1182.9	1183.3	1183.3	1183.3	1182.9	1181.3	1181.3	1181.3	1182.9
49°	1148.7	1148.3	1149.5	1149.9	1150.2	1149.9	1149.5	1148.3	1148.7	1148.3	1149.5
49.5°	1113.4	1113.8	1116.1	1117.6	1118.0	1117.6	1116.1	1113.8	1113.4	1113.8	1116.1
50°	1078.4	1080.0	1083.0	1084.9	1086.1	1084.9	1083.0	1080.0	1078.4	1080.0	1083.0
50.5°	1046.2	1048.1	1051.2	1053.1	1053.8	1053.1	1051.2	1048.1	1046.2	1048.1	1051.2
51°	1016.6	1017.7	1020.8	1022.3	1023.1	1022.3	1020.8	1017.7	1016.6	1017.7	1020.8
51.5°	988.2	988.9	992.4	995.1	996.2	995.1	992.4	988.9	988.2	988.9	992.4
52°	960.1	961.7	965.1	968.6	970.1	968.6	965.1	961.7	960.1	961.7	965.1
52.5°	934.8	936.3	940.2	943.6	945.9	943.6	940.2	936.3	934.8	936.3	940.2
53°	911.4	912.9	917.1	920.6	922.1	920.6	917.1	912.9	911.4	912.9	917.1
53.5°	889.5	891.0	894.8	897.9	899.5	897.9	894.8	891.0	889.5	891.0	894.8
54°	868.7	869.9	873.3	875.3	876.0	875.3	873.3	869.9	868.7	869.9	873.3
54.5°	846.8	848.0	850.7	853.0	853.4	853.0	850.7	848.0	846.8	848.0	850.7
55°	822.6	823.8	826.5	828.0	827.2	828.0	826.5	823.8	822.6	823.8	826.5
55.5°	794.6	795.8	798.8	800.4	800.0	800.4	798.8	795.8	794.6	795.8	798.8
56°	763.5	765.0	768.9	770.8	770.4	770.8	768.9	765.0	763.5	765.0	768.9
56.5°	730.5	732.8	736.2	739.3	738.9	739.3	736.2	732.8	730.5	732.8	736.2
57°	695.9	697.8	702.8	704.7	705.1	704.7	702.8	697.8	695.9	697.8	702.8
57.5°	659.8	662.1	667.5	669.8	670.2	669.8	667.5	662.1	659.8	662.1	667.5
58°	623.3	625.6	631.0	634.5	635.2	634.5	631.0	625.6	623.3	625.6	631.0
58.5°	586.1	588.0	593.7	598.0	599.1	598.0	593.7	588.0	586.1	588.0	593.7
59°	548.4	550.3	555.7	561.5	563.0	561.5	555.7	550.3	548.4	550.3	555.7
59.5°	510.0	512.3	518.5	525.0	526.5	525.0	518.5	512.3	510.0	512.3	518.5
60°	471.6	475.1	481.2	489.3	490.1	489.3	481.2	475.1	471.6	475.1	481.2
60.5°	434.0	437.1	445.5	452.8	454.3	452.8	445.5	437.1	434.0	437.1	445.5
61°	397.1	401.0	410.2	417.1	419.0	417.1	410.2	401.0	397.1	401.0	410.2
61.5°	361.8	365.2	375.2	381.4	384.8	381.4	375.2	365.2	361.8	365.2	375.2
62°	326.8	330.3	340.7	346.8	350.6	346.8	340.7	330.3	326.8	330.3	340.7
62.5°	291.9	296.5	307.2	313.4	317.6	313.4	307.2	296.5	291.9	296.5	307.2
63°	257.7	263.5	274.6	281.1	286.1	281.1	274.6	263.5	257.7	263.5	274.6
63.5°	226.2	231.2	243.1	250.0	255.0	250.0	243.1	231.2	226.2	231.2	243.1
64°	196.3	201.6	212.4	220.4	225.1	220.4	212.4	201.6	196.3	201.6	212.4
64.5°	167.8	172.8	183.2	192.4	197.0	192.4	183.2	172.8	167.8	172.8	183.2
65°	140.6	147.5	156.3	165.1	169.4	165.1	156.3	147.5	140.6	147.5	156.3
65.5°	116.8	123.3	131.0	139.8	143.6	139.8	131.0	123.3	116.8	123.3	131.0
66°	94.1	100.6	108.3	116.8	118.7	116.8	108.3	100.6	94.1	100.6	108.3



TEST NUMBER: P776440

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRH-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	37.6	48.0	51.8	59.1	59.5	59.1	51.8	48.0	37.6	48.0	51.8
68°	23.0	33.8	37.6	44.9	44.2	44.9	37.6	33.8	23.0	33.8	37.6
68.5°	10.0	21.9	26.5	31.9	35.3	31.9	26.5	21.9	10.0	21.9	26.5
69°	5.4	13.4	17.3	20.7	27.3	20.7	17.3	13.4	5.4	13.4	17.3
69.5°	3.5	6.5	9.6	12.3	18.8	12.3	9.6	6.5	3.5	6.5	9.6
70°	1.9	3.8	4.6	5.4	10.4	5.4	4.6	3.8	1.9	3.8	4.6
70.5°	0.8	1.9	2.7	2.3	3.1	2.3	2.7	1.9	0.8	1.9	2.7
71°	0.8	1.2	1.5	1.2	1.2	1.2	1.5	1.2	0.8	1.2	1.5
71.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
72°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
72.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
73°	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.8	0.8
73.5°	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.8
74°	0.4	0.4	0.4	0.8	0.8	0.8	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	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
77°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
77.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
78°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
78.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
79°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
79.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
80°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.4
80.5°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.4
81°	0.0	0.0	0.0	0.0	0.4	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: P776440

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRH-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: P776440

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRH-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1920.6	1920.6	1920.6	1920.6	1920.6	1920.6
0.5°	1921.0	1920.6	1921.0	1920.6	1920.3	1920.3
1°	1921.0	1920.3	1921.0	1920.6	1920.3	1920.3
1.5°	1920.6	1920.3	1920.6	1920.3	1919.9	1919.9
2°	1920.3	1919.9	1920.3	1920.3	1919.5	1919.5
2.5°	1920.3	1919.5	1920.3	1919.9	1919.5	1919.1
3°	1919.5	1919.1	1919.5	1919.5	1918.7	1918.7
3.5°	1919.1	1918.7	1919.1	1918.7	1918.3	1918.0
4°	1918.7	1918.0	1918.7	1918.0	1917.6	1917.6
4.5°	1918.0	1917.6	1918.0	1917.6	1917.2	1916.8
5°	1917.2	1916.8	1917.2	1916.8	1916.4	1916.0
5.5°	1916.4	1916.0	1916.4	1916.0	1915.3	1915.3
6°	1915.7	1915.3	1915.7	1914.9	1914.5	1914.1
6.5°	1914.9	1914.1	1914.9	1914.1	1913.7	1913.3
7°	1913.7	1913.3	1913.7	1913.3	1912.6	1912.2
7.5°	1912.6	1912.2	1912.6	1912.2	1911.4	1911.0
8°	1911.8	1911.4	1911.8	1911.0	1910.3	1910.3
8.5°	1910.3	1910.3	1910.3	1909.9	1909.1	1909.1
9°	1909.5	1909.1	1909.5	1908.7	1908.0	1907.6
9.5°	1908.4	1908.0	1908.4	1907.6	1906.8	1906.4
10°	1907.2	1906.8	1907.2	1906.4	1905.7	1905.3
10.5°	1906.1	1905.7	1906.1	1904.9	1904.5	1904.1
11°	1904.9	1904.5	1904.9	1903.7	1903.0	1903.0
11.5°	1903.7	1903.4	1903.7	1902.6	1901.8	1901.8
12°	1902.6	1902.6	1902.6	1901.4	1900.7	1900.7
12.5°	1901.4	1901.4	1901.4	1900.7	1899.5	1899.5
13°	1900.3	1900.7	1900.3	1899.5	1898.8	1898.4
13.5°	1899.5	1899.5	1899.5	1898.8	1897.6	1897.2
14°	1898.8	1898.8	1898.8	1897.6	1896.8	1896.5
14.5°	1898.0	1898.4	1898.0	1896.8	1896.1	1895.7
15°	1897.6	1897.6	1897.6	1896.1	1895.3	1894.9
15.5°	1896.8	1897.2	1896.8	1895.7	1894.5	1894.1
16°	1896.5	1896.8	1896.5	1894.9	1894.1	1893.8
16.5°	1896.1	1896.5	1896.1	1894.5	1893.8	1893.4
17°	1896.1	1896.5	1896.1	1894.5	1893.4	1893.0
17.5°	1896.1	1896.5	1896.1	1894.1	1893.4	1893.0
18°	1896.1	1896.5	1896.1	1894.1	1893.0	1892.6
18.5°	1896.1	1896.5	1896.1	1894.1	1893.0	1892.6
19°	1896.5	1896.8	1896.5	1894.1	1893.0	1893.0
19.5°	1896.5	1897.2	1896.5	1894.5	1893.4	1893.0
20°	1896.8	1897.2	1896.8	1894.5	1893.4	1893.0
20.5°	1896.8	1897.6	1896.8	1894.9	1893.4	1893.4
21°	1897.2	1897.6	1897.2	1894.9	1893.8	1893.4



TEST NUMBER: P776440

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRH-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1897.2	1898.0	1897.2	1894.9	1893.4	1893.0
23°	1896.8	1897.6	1896.8	1894.5	1893.0	1892.6
23.5°	1896.5	1897.2	1896.5	1894.1	1892.6	1892.2
24°	1896.1	1896.8	1896.1	1893.4	1891.8	1891.8
24.5°	1895.3	1896.1	1895.3	1892.6	1891.1	1890.7
25°	1894.5	1894.9	1894.5	1891.8	1889.9	1889.5
25.5°	1893.4	1893.8	1893.4	1890.7	1888.8	1888.4
26°	1891.8	1892.6	1891.8	1889.2	1887.2	1886.8
26.5°	1890.3	1890.7	1890.3	1887.6	1885.3	1884.9
27°	1888.0	1888.4	1888.0	1885.3	1883.4	1883.0
27.5°	1885.7	1886.1	1885.7	1883.0	1881.1	1880.3
28°	1883.0	1883.4	1883.0	1880.3	1878.0	1877.6
28.5°	1879.9	1879.9	1879.9	1877.2	1874.9	1874.6
29°	1876.1	1876.5	1876.1	1873.8	1871.5	1870.7
29.5°	1872.3	1872.3	1872.3	1870.0	1867.3	1866.5
30°	1867.6	1867.3	1867.6	1865.3	1862.7	1861.9
30.5°	1862.7	1862.3	1862.7	1860.3	1857.7	1856.9
31°	1856.9	1856.1	1856.9	1855.0	1851.9	1851.1
31.5°	1850.4	1849.6	1850.4	1848.8	1845.8	1844.6
32°	1843.5	1842.7	1843.5	1841.9	1838.8	1837.3
32.5°	1835.4	1834.6	1835.4	1834.2	1831.2	1829.6
33°	1826.9	1825.8	1826.9	1826.2	1822.7	1821.2
33.5°	1817.7	1816.6	1817.7	1817.0	1813.5	1811.6
34°	1807.7	1806.2	1807.7	1807.4	1803.9	1802.0
34.5°	1796.6	1795.1	1796.6	1796.6	1793.1	1790.8
35°	1785.1	1783.5	1785.1	1785.5	1781.6	1779.7
35.5°	1772.8	1771.2	1772.8	1773.2	1769.3	1767.4
36°	1759.7	1757.8	1759.7	1760.5	1756.7	1754.4
36.5°	1745.9	1743.6	1745.9	1746.7	1742.8	1740.9
37°	1731.3	1729.0	1731.3	1731.7	1728.2	1725.9
37.5°	1715.6	1713.3	1715.6	1716.7	1712.9	1711.0
38°	1699.4	1696.7	1699.4	1700.6	1697.1	1694.8
38.5°	1682.1	1679.8	1682.1	1683.7	1680.2	1677.9
39°	1664.9	1662.2	1664.9	1666.0	1662.9	1661.0
39.5°	1646.4	1643.7	1646.4	1647.6	1644.5	1643.0
40°	1627.2	1624.5	1627.2	1628.4	1625.3	1623.8
40.5°	1607.3	1604.6	1607.3	1608.4	1605.7	1604.6
41°	1586.9	1584.2	1586.9	1587.7	1585.4	1584.2
41.5°	1565.0	1563.1	1565.0	1566.5	1564.2	1563.5
42°	1543.5	1541.6	1543.5	1544.3	1542.7	1542.0
42.5°	1520.8	1518.9	1520.8	1521.6	1520.1	1520.1
43°	1497.4	1495.5	1497.4	1498.2	1497.0	1497.0
43.5°	1472.8	1471.7	1472.8	1473.6	1473.2	1473.2

TEST NUMBER: P776440

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRH-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1396.4	1396.0	1396.4	1396.8	1396.8	1398.0
45.5°	1369.1	1368.8	1369.1	1369.5	1369.9	1371.1
46°	1341.5	1341.1	1341.5	1341.5	1341.9	1343.4
46.5°	1312.3	1311.9	1312.3	1312.7	1313.1	1314.6
47°	1280.4	1279.7	1280.4	1281.2	1282.4	1283.9
47.5°	1247.8	1247.4	1247.8	1247.4	1248.9	1250.5
48°	1215.9	1216.3	1215.9	1215.5	1214.8	1215.1
48.5°	1183.3	1183.3	1183.3	1182.9	1181.3	1181.3
49°	1149.9	1150.2	1149.9	1149.5	1148.3	1148.7
49.5°	1117.6	1118.0	1117.6	1116.1	1113.8	1113.4
50°	1084.9	1086.1	1084.9	1083.0	1080.0	1078.4
50.5°	1053.1	1053.8	1053.1	1051.2	1048.1	1046.2
51°	1022.3	1023.1	1022.3	1020.8	1017.7	1016.6
51.5°	995.1	996.2	995.1	992.4	988.9	988.2
52°	968.6	970.1	968.6	965.1	961.7	960.1
52.5°	943.6	945.9	943.6	940.2	936.3	934.8
53°	920.6	922.1	920.6	917.1	912.9	911.4
53.5°	897.9	899.5	897.9	894.8	891.0	889.5
54°	875.3	876.0	875.3	873.3	869.9	868.7
54.5°	853.0	853.4	853.0	850.7	848.0	846.8
55°	828.0	827.2	828.0	826.5	823.8	822.6
55.5°	800.4	800.0	800.4	798.8	795.8	794.6
56°	770.8	770.4	770.8	768.9	765.0	763.5
56.5°	739.3	738.9	739.3	736.2	732.8	730.5
57°	704.7	705.1	704.7	702.8	697.8	695.9
57.5°	669.8	670.2	669.8	667.5	662.1	659.8
58°	634.5	635.2	634.5	631.0	625.6	623.3
58.5°	598.0	599.1	598.0	593.7	588.0	586.1
59°	561.5	563.0	561.5	555.7	550.3	548.4
59.5°	525.0	526.5	525.0	518.5	512.3	510.0
60°	489.3	490.1	489.3	481.2	475.1	471.6
60.5°	452.8	454.3	452.8	445.5	437.1	434.0
61°	417.1	419.0	417.1	410.2	401.0	397.1
61.5°	381.4	384.8	381.4	375.2	365.2	361.8
62°	346.8	350.6	346.8	340.7	330.3	326.8
62.5°	313.4	317.6	313.4	307.2	296.5	291.9
63°	281.1	286.1	281.1	274.6	263.5	257.7
63.5°	250.0	255.0	250.0	243.1	231.2	226.2
64°	220.4	225.1	220.4	212.4	201.6	196.3
64.5°	192.4	197.0	192.4	183.2	172.8	167.8
65°	165.1	169.4	165.1	156.3	147.5	140.6
65.5°	139.8	143.6	139.8	131.0	123.3	116.8
66°	116.8	118.7	116.8	108.3	100.6	94.1



TEST NUMBER: P776440

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRH-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	59.1	59.5	59.1	51.8	48.0	37.6
68°	44.9	44.2	44.9	37.6	33.8	23.0
68.5°	31.9	35.3	31.9	26.5	21.9	10.0
69°	20.7	27.3	20.7	17.3	13.4	5.4
69.5°	12.3	18.8	12.3	9.6	6.5	3.5
70°	5.4	10.4	5.4	4.6	3.8	1.9
70.5°	2.3	3.1	2.3	2.7	1.9	0.8
71°	1.2	1.2	1.2	1.5	1.2	0.8
71.5°	0.8	0.8	0.8	0.8	0.8	0.8
72°	0.8	0.8	0.8	0.8	0.8	0.8
72.5°	0.8	0.8	0.8	0.8	0.8	0.8
73°	0.8	0.8	0.8	0.8	0.8	0.4
73.5°	0.8	0.8	0.8	0.8	0.4	0.4
74°	0.8	0.8	0.8	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	0.4	0.4	0.4
77°	0.4	0.4	0.4	0.4	0.4	0.4
77.5°	0.4	0.4	0.4	0.4	0.4	0.4
78°	0.4	0.4	0.4	0.4	0.4	0.4
78.5°	0.4	0.4	0.4	0.4	0.4	0.4
79°	0.4	0.4	0.4	0.4	0.4	0.4
79.5°	0.4	0.4	0.4	0.4	0.4	0.4
80°	0.4	0.4	0.4	0.4	0.0	0.0
80.5°	0.4	0.4	0.4	0.4	0.0	0.0
81°	0.0	0.4	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: P776440

CATALOG NUMBER: HCDJBL3040CSD-HCD81TRH-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°	1893.4	1893.8	1894.9	1897.2	1898.0	1897.2	1894.9	1893.8	1893.4	1893.8	1894.9
22°	1893.4	1893.4	1894.9	1897.2	1898.0	1897.2	1894.9	1893.4	1893.4	1893.4	1894.9



44°	1449.0	1448.3	1448.6	1447.9	1447.1	1447.9	1448.6	1448.3	1449.0	1448.3	1448.6
44.5°	1424.1	1422.9	1423.3	1422.9	1421.8	1422.9	1423.3	1422.9	1424.1	1422.9	1423.3



66.5°	75.3	81.4	86.8	94.9	97.2	94.9	86.8	81.4	75.3	81.4	86.8
67°	56.5	63.0	68.7	76.4	77.2	76.4	68.7	63.0	56.5	63.0	68.7



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





21.5°	1897.2	1898.0	1897.2	1894.9	1893.8	1893.4
22°	1897.2	1898.0	1897.2	1894.9	1893.4	1893.4



44°	1447.9	1447.1	1447.9	1448.6	1448.3	1449.0
44.5°	1422.9	1421.8	1422.9	1423.3	1422.9	1424.1



66.5°	94.9	97.2	94.9	86.8	81.4	75.3
67°	76.4	77.2	76.4	68.7	63.0	56.5

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)