

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P593667

Luminaire Tested: **HC830D010-HM82555850-81WWW**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P593667
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-16)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC830D010-HM82555850-81WWW
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3387.6 lumens
Efficiency: N/A
Efficacy: 121.0 lumens/watt
Spacing Criteria (0/90/45): 1.09 / 1.04 / 1.13
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

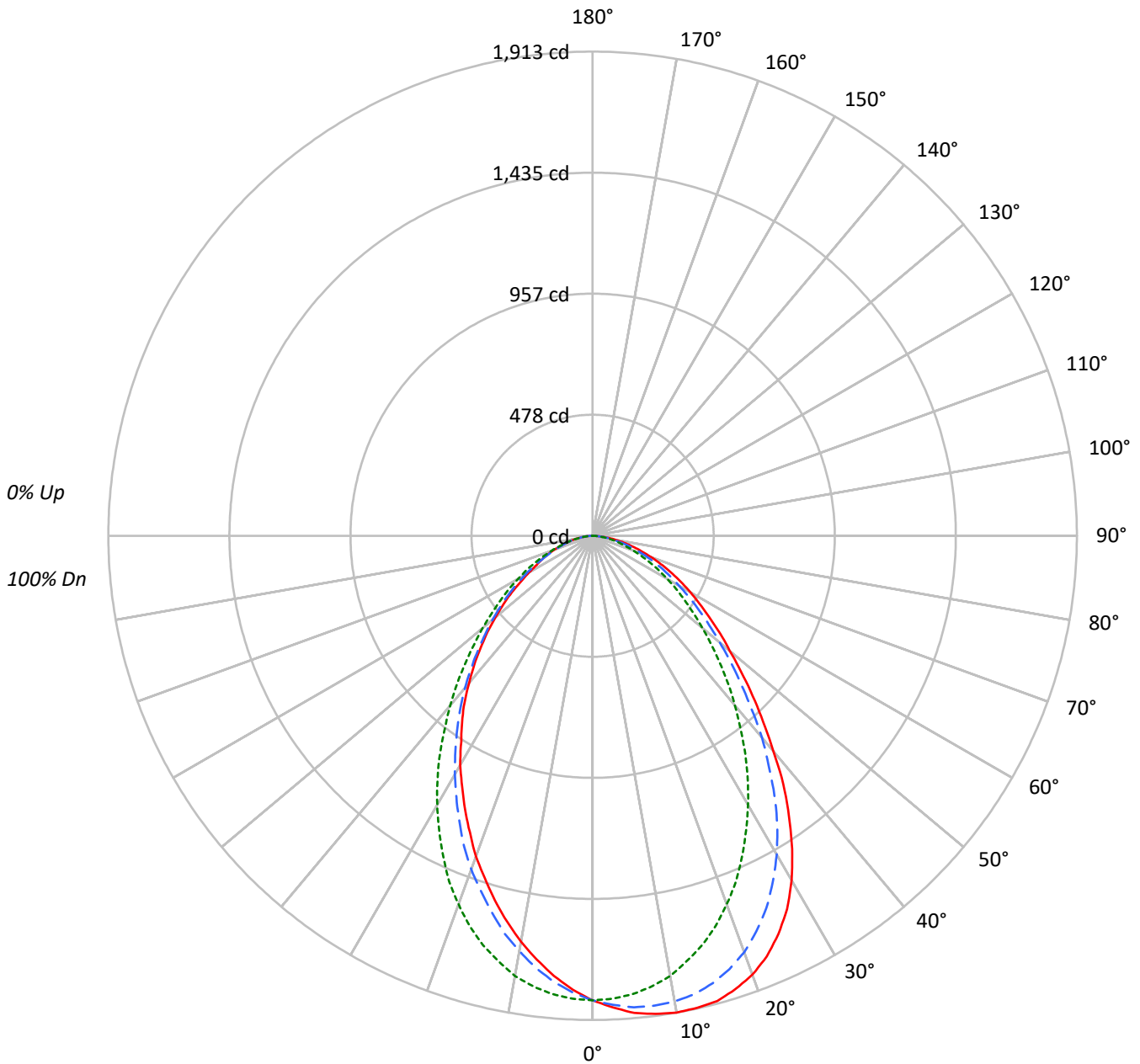
Input Watts (W): 28
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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									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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	93	91	89	87																			
2	102	95	89	84	99	93	88	83	90	85	81	86	83	79	83	80	78	76																			
3	94	85	78	72	92	83	77	71	81	75	70	78	73	69	75	71	68	66																			
4	87	76	69	63	85	75	68	62	73	67	62	71	65	61	68	64	60	58																			
5	81	69	61	55	79	68	61	55	66	60	54	64	59	54	63	57	53	51																			
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46																			
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	41																			
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38																			
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34																			
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	56603	56603	56603
5°	58593	56278	54043
10°	59890	55291	51001
15°	60745	53428	47624
20°	60564	50834	44215
25°	59062	47538	40591
30°	55956	43721	37248
35°	50910	39568	33846
40°	44714	35190	30581
45°	38991	30954	27264
50°	33931	27124	24015
55°	30262	23838	20892
60°	27494	20889	17817
65°	24713	18176	16169
70°	22008	15489	14597
75°	19289	13058	12462
80°	16355	10619	11063
85°	12312	7961	8810



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	171.9	5.1
10°-20°	473.7	14.0
20°-30°	657.6	19.4
30°-40°	679.8	20.1
40°-50°	569.2	16.8
50°-60°	413.2	12.2
60°-70°	260.8	7.7
70°-80°	129.2	3.8
80°-90°	32.1	0.9
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°	1303.2	38.5
0°-40°	1983.0	58.5
0°-60°	2965.5	87.5
0°-90°	3387.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3387.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1836	1836	1836	1836	1836	
5°	1893	1870	1818	1768	1746	181
15°	1903	1831	1674	1539	1492	536
25°	1736	1624	1397	1245	1193	795
35°	1352	1253	1051	932	899	842
45°	894	829	710	640	625	692
55°	563	513	443	406	389	508
65°	339	296	249	219	222	338
75°	162	134	110	105	105	174
85°	35	27	22	25	25	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6
2.5°	1865.4	1865.4	1867.9	1865.4	1865.4	1865.4	1862.9	1862.9	1860.4	1860.4	1855.4
5°	1892.9	1887.9	1892.9	1887.9	1887.9	1887.9	1885.4	1880.4	1877.9	1872.9	1870.4
7.5°	1905.3	1902.8	1902.8	1900.3	1900.3	1897.8	1895.4	1892.9	1882.9	1880.4	1872.9
10°	1912.7	1910.2	1910.2	1907.8	1902.8	1902.8	1897.8	1895.4	1882.9	1877.9	1867.9
12.5°	1910.2	1910.2	1910.2	1907.8	1900.3	1897.8	1892.9	1885.4	1875.4	1865.4	1855.4
15°	1902.8	1902.8	1897.8	1895.4	1887.9	1882.9	1880.4	1867.9	1857.9	1845.6	1830.6
17.5°	1877.9	1877.9	1875.4	1870.4	1862.9	1857.9	1852.9	1840.6	1830.6	1810.6	1795.7
20°	1845.6	1843.1	1840.6	1833.1	1825.6	1823.1	1815.6	1798.2	1785.8	1770.8	1750.9
22.5°	1798.2	1795.7	1793.2	1788.3	1775.8	1770.8	1765.8	1753.4	1730.9	1716.0	1691.1
25°	1735.9	1735.9	1730.9	1723.5	1711.0	1706.1	1698.6	1686.1	1666.1	1643.8	1623.8
27.5°	1663.6	1661.3	1653.8	1648.8	1638.8	1631.3	1618.8	1604.0	1584.0	1566.6	1541.7
30°	1571.5	1571.5	1566.6	1559.1	1546.7	1541.7	1531.7	1514.3	1494.3	1472.0	1454.5
32.5°	1467.0	1467.0	1459.5	1454.5	1447.0	1434.5	1432.0	1412.2	1394.7	1377.3	1357.4
35°	1352.4	1354.9	1349.9	1339.9	1327.5	1327.5	1322.5	1305.0	1285.2	1267.7	1252.7
37.5°	1237.9	1230.4	1227.9	1222.9	1215.4	1205.4	1200.4	1193.0	1175.6	1163.1	1140.7
40°	1110.8	1113.3	1108.3	1103.3	1100.8	1093.4	1090.9	1078.4	1065.9	1051.1	1041.1
42.5°	996.3	996.3	996.3	991.3	986.3	978.8	976.3	968.8	953.9	943.9	929.0
45°	894.1	886.6	886.6	884.1	881.6	876.6	869.2	864.3	854.3	846.8	829.3
47.5°	794.5	797.0	794.5	792.0	784.5	782.0	779.5	769.6	759.7	752.2	739.7
50°	707.3	712.3	707.3	707.3	702.3	699.8	694.9	687.4	679.9	667.5	655.0
52.5°	635.0	635.0	632.5	630.2	622.7	617.7	615.2	612.7	600.2	590.2	580.4
55°	562.9	565.4	565.4	557.9	555.4	550.4	547.9	540.4	535.5	520.5	513.1
57.5°	500.6	498.1	500.6	495.6	490.7	485.7	483.2	478.2	470.7	460.7	450.7
60°	445.8	440.9	440.9	438.4	433.4	430.9	425.9	418.4	410.9	400.9	393.6
62.5°	391.1	388.6	386.1	383.6	378.6	376.1	373.6	366.1	358.6	351.1	343.7
65°	338.7	338.7	336.2	331.3	328.8	326.3	323.8	318.8	308.8	303.9	296.4
67.5°	291.4	288.9	288.9	283.9	278.9	276.4	276.4	271.4	264.0	256.6	251.6
70°	244.1	246.6	244.1	241.6	236.6	236.6	231.6	229.1	219.1	216.6	209.3
72.5°	201.8	201.8	199.3	199.3	194.3	191.8	191.8	186.8	181.8	176.8	171.8
75°	161.9	161.9	161.9	159.4	156.9	152.0	152.0	149.5	144.5	139.5	134.5
77.5°	127.0	124.5	124.5	122.0	119.5	117.0	117.0	114.6	109.6	107.1	102.1
80°	92.1	89.7	89.7	89.7	84.7	87.2	84.7	82.2	79.7	77.2	74.7
82.5°	59.8	62.3	62.3	59.8	57.3	57.3	57.3	54.8	54.8	52.3	49.8
85°	34.8	34.8	34.8	34.8	32.3	32.3	32.3	29.8	29.8	29.8	27.3
87.5°	15.0	15.0	15.0	15.0	15.0	15.0	12.5	12.5	12.5	12.5	12.5
90°	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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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6
2.5°	1855.4	1850.4	1848.1	1845.6	1845.6	1843.1	1840.6	1835.6	1835.6	1830.6	1828.1
5°	1865.4	1857.9	1852.9	1848.1	1845.6	1840.6	1835.6	1828.1	1825.6	1818.1	1810.6
7.5°	1867.9	1855.4	1850.4	1840.6	1835.6	1830.6	1820.6	1813.1	1803.1	1795.7	1785.8
10°	1857.9	1848.1	1835.6	1823.1	1820.6	1813.1	1798.2	1788.3	1775.8	1765.8	1750.9
12.5°	1843.1	1828.1	1815.6	1800.7	1793.2	1785.8	1770.8	1755.8	1738.4	1721.0	1706.1
15°	1818.1	1800.7	1783.3	1765.8	1755.8	1748.4	1730.9	1713.5	1696.1	1673.6	1658.8
17.5°	1780.8	1760.8	1743.4	1721.0	1711.0	1703.6	1681.1	1661.3	1638.8	1616.3	1601.5
20°	1733.4	1708.6	1688.6	1663.6	1656.3	1643.8	1621.3	1599.0	1574.0	1549.1	1531.7
22.5°	1671.1	1646.3	1623.8	1599.0	1586.5	1574.0	1551.6	1524.2	1499.3	1479.4	1462.0
25°	1599.0	1576.5	1549.1	1526.7	1511.8	1496.8	1472.0	1449.5	1427.2	1397.2	1379.8
27.5°	1519.3	1491.8	1472.0	1442.0	1427.2	1417.2	1389.7	1359.9	1339.9	1312.5	1292.6
30°	1429.5	1404.7	1382.2	1352.4	1337.4	1327.5	1302.5	1275.2	1255.2	1227.9	1207.9
32.5°	1334.9	1307.5	1280.2	1260.2	1242.7	1232.9	1205.4	1188.0	1163.1	1140.7	1118.3
35°	1232.9	1205.4	1185.6	1158.1	1148.1	1138.2	1115.8	1093.4	1070.9	1051.1	1033.6
37.5°	1123.2	1103.3	1080.9	1060.9	1053.5	1043.6	1016.1	996.3	978.8	958.9	943.9
40°	1016.1	998.8	983.8	963.8	951.4	943.9	924.0	906.6	886.6	874.2	859.3
42.5°	919.0	899.1	884.1	869.2	856.8	849.3	831.8	819.3	804.5	792.0	774.5
45°	817.0	807.0	789.5	777.0	769.6	759.7	747.2	732.2	719.8	709.8	697.3
47.5°	727.2	717.3	704.8	689.9	684.9	677.5	665.0	655.0	645.0	635.0	622.7
50°	645.0	632.5	622.7	612.7	607.7	600.2	587.7	582.8	575.4	565.4	557.9
52.5°	570.4	560.4	550.4	538.0	535.5	530.5	523.0	513.1	505.6	500.6	495.6
55°	503.1	493.1	485.7	475.7	473.2	468.2	458.2	453.2	448.3	443.4	438.4
57.5°	443.4	433.4	423.4	418.4	413.4	408.4	405.9	398.4	393.6	391.1	386.1
60°	388.6	378.6	371.1	363.6	361.1	358.6	353.6	348.7	343.7	338.7	336.2
62.5°	336.2	326.3	321.3	316.3	311.3	311.3	306.3	301.4	296.4	293.9	288.9
65°	288.9	283.9	276.4	269.0	266.5	266.5	259.0	256.6	254.1	249.1	244.1
67.5°	244.1	239.1	231.6	229.1	226.6	224.1	221.6	216.6	211.6	209.3	204.3
70°	204.3	199.3	194.3	191.8	189.3	186.8	181.8	179.3	174.3	171.8	169.3
72.5°	164.3	161.9	156.9	154.5	152.0	149.5	147.0	144.5	139.5	137.0	134.5
75°	132.0	129.5	124.5	122.0	119.5	119.5	117.0	112.1	109.6	109.6	107.1
77.5°	99.6	97.1	94.6	92.1	89.7	89.7	87.2	84.7	82.2	82.2	79.7
80°	72.2	69.8	67.3	67.3	67.3	64.8	62.3	62.3	59.8	59.8	57.3
82.5°	47.3	47.3	44.8	44.8	44.8	42.3	42.3	39.8	39.8	39.8	39.8
85°	27.3	27.3	27.3	24.9	24.9	24.9	24.9	24.9	24.9	22.5	24.9
87.5°	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	10.0	10.0	10.0
90°	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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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6
2.5°	1825.6	1823.1	1818.1	1818.1	1813.1	1813.1	1810.6	1808.1	1805.6	1803.1	1800.7
5°	1808.1	1798.2	1793.2	1790.8	1785.8	1783.3	1775.8	1770.8	1768.3	1763.3	1758.3
7.5°	1775.8	1765.8	1755.8	1753.4	1750.9	1740.9	1733.4	1726.0	1721.0	1716.0	1711.0
10°	1738.4	1728.4	1716.0	1711.0	1706.1	1693.6	1683.6	1676.1	1666.1	1656.3	1653.8
12.5°	1693.6	1678.6	1663.6	1658.8	1651.3	1638.8	1628.8	1616.3	1609.0	1596.5	1594.0
15°	1641.3	1623.8	1611.5	1599.0	1594.0	1581.5	1564.1	1554.1	1539.2	1534.2	1521.7
17.5°	1579.0	1561.6	1544.2	1539.2	1531.7	1514.3	1496.8	1484.3	1469.5	1462.0	1454.5
20°	1514.3	1491.8	1474.5	1469.5	1459.5	1444.5	1427.2	1414.7	1402.2	1387.2	1379.8
22.5°	1439.5	1414.7	1399.7	1387.2	1384.7	1367.4	1347.4	1337.4	1327.5	1315.0	1305.0
25°	1357.4	1334.9	1317.5	1307.5	1302.5	1287.6	1272.7	1260.2	1245.2	1237.9	1225.4
27.5°	1272.7	1257.7	1235.4	1225.4	1217.9	1205.4	1188.0	1180.6	1165.6	1155.6	1148.1
30°	1190.5	1168.1	1155.6	1143.2	1135.7	1123.2	1108.3	1100.8	1088.4	1078.4	1070.9
32.5°	1100.8	1085.9	1068.4	1063.4	1053.5	1041.1	1031.1	1018.6	1008.6	998.8	996.3
35°	1018.6	998.8	981.3	976.3	968.8	956.4	951.4	943.9	931.5	929.0	919.0
37.5°	929.0	919.0	899.1	891.6	889.1	879.1	869.2	864.3	856.8	849.3	846.8
40°	844.3	831.8	821.8	814.5	809.5	802.0	792.0	789.5	784.5	774.5	772.1
42.5°	764.6	752.2	742.2	739.7	732.2	724.8	719.8	712.3	709.8	707.3	702.3
45°	687.4	679.9	670.0	667.5	665.0	655.0	650.0	645.0	640.0	637.5	632.5
47.5°	617.7	610.2	602.7	600.2	595.2	592.7	585.2	582.8	575.4	572.9	570.4
50°	550.4	545.4	540.4	538.0	533.0	530.5	525.5	520.5	515.6	513.1	510.6
52.5°	490.7	485.7	480.7	478.2	475.7	470.7	465.7	460.7	458.2	455.7	453.2
55°	433.4	428.4	425.9	423.4	420.9	418.4	410.9	408.4	405.9	403.4	398.4
57.5°	381.1	376.1	371.1	371.1	368.6	366.1	361.1	356.1	356.1	351.1	346.2
60°	333.8	328.8	323.8	321.3	318.8	313.8	311.3	308.8	306.3	303.9	298.9
62.5°	283.9	281.4	276.4	276.4	271.4	269.0	266.5	264.0	261.5	256.6	254.1
65°	241.6	239.1	234.1	231.6	231.6	229.1	224.1	221.6	219.1	219.1	216.6
67.5°	201.8	199.3	194.3	191.8	191.8	189.3	186.8	186.8	184.3	181.8	184.3
70°	166.8	161.9	161.9	159.4	159.4	156.9	154.5	154.5	154.5	156.9	156.9
72.5°	132.0	129.5	127.0	127.0	127.0	127.0	124.5	124.5	127.0	129.5	129.5
75°	104.6	102.1	102.1	102.1	99.6	99.6	102.1	102.1	104.6	104.6	104.6
77.5°	77.2	77.2	77.2	77.2	77.2	77.2	79.7	79.7	82.2	82.2	82.2
80°	57.3	57.3	57.3	57.3	57.3	59.8	59.8	59.8	59.8	59.8	62.3
82.5°	39.8	39.8	39.8	39.8	39.8	39.8	39.8	42.3	42.3	42.3	42.3
85°	22.5	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9
87.5°	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
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: P593667

CATALOG NUMBER: HC830D010-HM82555850-81WWW

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6	1835.6
2.5°	1798.2	1798.2	1798.2	1800.7	1795.7	1795.7	1795.7	1795.7
5°	1755.8	1753.4	1750.9	1753.4	1748.4	1748.4	1745.9	1745.9
7.5°	1703.6	1701.1	1698.6	1698.6	1693.6	1693.6	1691.1	1688.6
10°	1646.3	1641.3	1643.8	1638.8	1636.3	1633.8	1631.3	1628.8
12.5°	1584.0	1579.0	1576.5	1571.5	1566.6	1564.1	1566.6	1561.6
15°	1516.8	1509.3	1506.8	1501.8	1496.8	1494.3	1494.3	1491.8
17.5°	1442.0	1437.0	1434.5	1429.5	1427.2	1422.2	1419.7	1417.2
20°	1372.3	1359.9	1362.4	1357.4	1354.9	1344.9	1344.9	1347.4
22.5°	1295.1	1287.6	1282.7	1277.7	1275.2	1270.2	1270.2	1267.7
25°	1217.9	1210.4	1207.9	1202.9	1200.4	1195.4	1193.0	1193.0
27.5°	1143.2	1133.2	1133.2	1128.2	1123.2	1120.8	1118.3	1115.8
30°	1063.4	1056.0	1053.5	1053.5	1051.1	1051.1	1043.6	1046.1
32.5°	988.8	983.8	981.3	976.3	976.3	973.8	973.8	966.3
35°	914.0	906.6	909.1	904.1	901.6	899.1	901.6	899.1
37.5°	841.8	836.8	836.8	831.8	831.8	829.3	826.8	831.8
40°	769.6	767.1	764.6	762.1	764.6	762.1	757.2	759.7
42.5°	697.3	697.3	694.9	694.9	692.4	692.4	692.4	692.4
45°	632.5	630.2	630.2	627.7	627.7	627.7	627.7	625.2
47.5°	567.9	565.4	565.4	565.4	562.9	562.9	560.4	562.9
50°	505.6	505.6	503.1	503.1	505.6	503.1	500.6	500.6
52.5°	448.3	448.3	445.8	445.8	443.4	440.9	443.4	443.4
55°	396.1	393.6	391.1	391.1	388.6	386.1	386.1	388.6
57.5°	346.2	343.7	341.2	341.2	336.2	333.8	333.8	333.8
60°	298.9	293.9	293.9	291.4	291.4	288.9	288.9	288.9
62.5°	254.1	251.6	251.6	251.6	251.6	249.1	249.1	249.1
65°	216.6	216.6	216.6	219.1	219.1	221.6	221.6	221.6
67.5°	186.8	189.3	189.3	189.3	191.8	191.8	191.8	189.3
70°	159.4	159.4	159.4	161.9	161.9	161.9	161.9	161.9
72.5°	132.0	132.0	132.0	132.0	132.0	132.0	132.0	132.0
75°	104.6	107.1	107.1	107.1	104.6	107.1	107.1	104.6
77.5°	82.2	82.2	82.2	82.2	82.2	82.2	82.2	82.2
80°	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3
82.5°	42.3	42.3	42.3	42.3	42.3	42.3	42.3	42.3
85°	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9
87.5°	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By 670245859 / DESKTOP-HRDQ47P





— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)