

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: P584463

Luminaire Tested: **HC835D010-HM82555930-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584463
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-14)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC835D010-HM82555930-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3650.7 lumens
Efficiency: N/A
Efficacy: 108.3 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.08 / 1.17
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

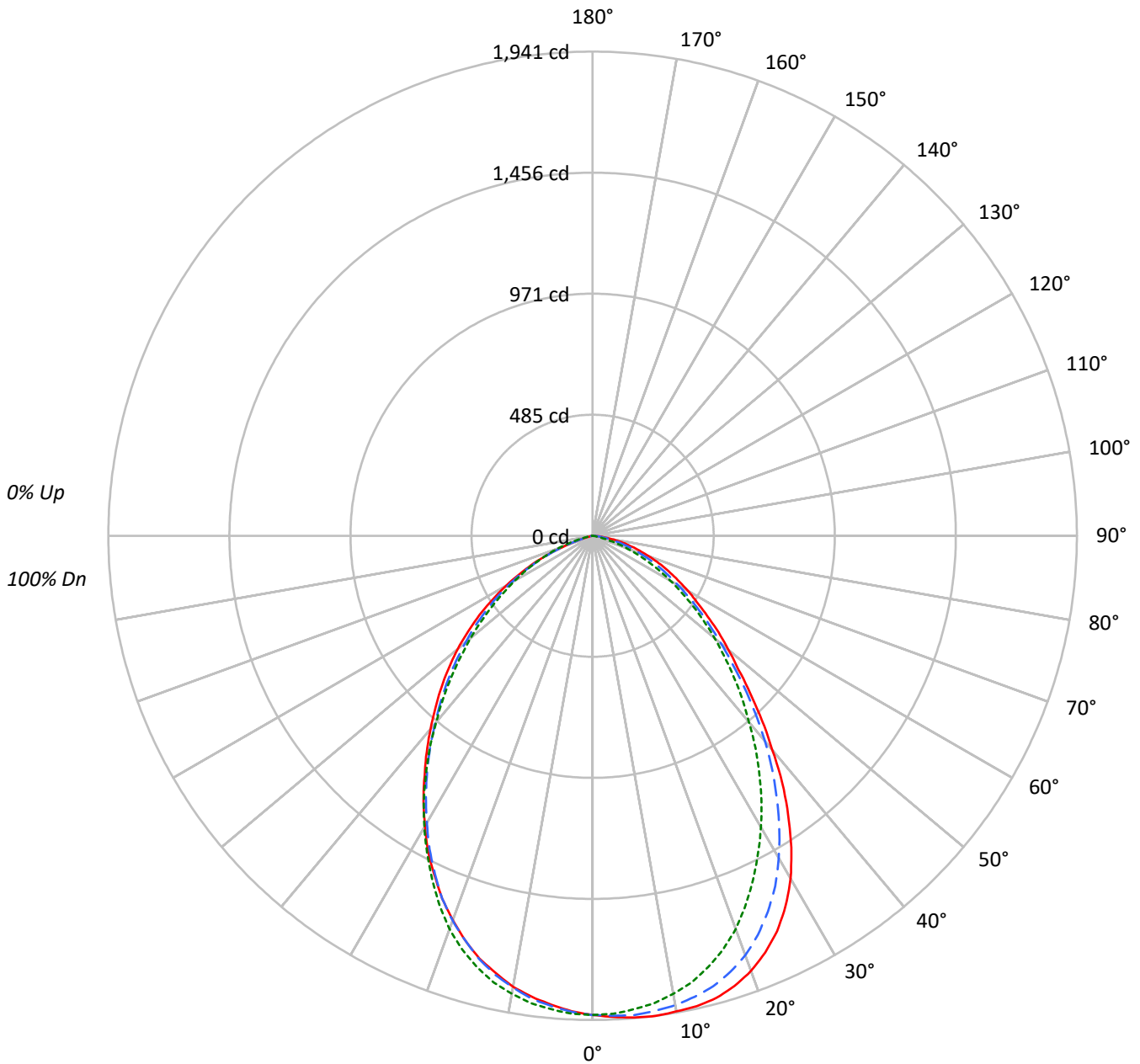
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88								
2	103	96	90	85	100	94	89	84	91	86	82	87	84	81	85	82	79	77								
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67								
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59								
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52								
6	76	64	56	50	74	63	55	50	61	55	50	60	54	49	58	53	49	47								
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42								
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38								
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35								
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	59233	59233	59233
5°	60011	58980	58423
10°	60626	58378	57495
15°	61237	57147	55998
20°	60928	55038	53774
25°	59508	51740	51046
30°	56526	48030	47848
35°	51456	43829	44213
40°	45113	39231	40673
45°	38921	34892	37356
50°	34080	30631	33835
55°	30192	26338	29784
60°	27204	22140	24669
65°	24509	17782	18898
70°	21503	12947	10404
75°	18324	6720	2752
80°	14118	1829	444
85°	9057	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.2	5.0
10°-20°	509.5	14.0
20°-30°	723.1	19.8
30°-40°	761.2	20.9
40°-50°	647.5	17.7
50°-60°	467.9	12.8
60°-70°	266.2	7.3
70°-80°	83.9	2.3
80°-90°	10.2	0.3
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°	1413.8	38.7
0°-40°	2175.0	59.6
0°-60°	3290.5	90.1
0°-90°	3650.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3650.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1921	1921	1921	1921	1921	
5°	1939	1928	1905	1893	1887	185
15°	1918	1870	1790	1757	1754	540
25°	1749	1662	1521	1495	1500	801
35°	1367	1287	1164	1156	1174	851
45°	892	859	800	821	857	694
55°	562	521	490	518	554	506
65°	336	290	244	241	259	333
75°	154	118	56	26	23	166
85°	26	15	0	0	0	33
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°	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9
2.5°	1931.1	1933.7	1928.5	1928.5	1933.7	1928.5	1931.1	1931.1	1928.5	1928.5	1925.9
5°	1938.7	1936.2	1936.2	1936.2	1938.7	1933.7	1931.1	1933.7	1928.5	1928.5	1928.5
7.5°	1941.4	1941.4	1938.7	1936.2	1936.2	1936.2	1933.7	1931.1	1928.5	1923.4	1920.9
10°	1936.2	1936.2	1938.7	1933.7	1933.7	1928.5	1928.5	1923.4	1923.4	1918.2	1910.6
12.5°	1931.1	1928.5	1928.5	1923.4	1923.4	1918.2	1918.2	1910.6	1908.1	1900.3	1892.6
15°	1918.2	1915.7	1910.6	1908.1	1905.4	1902.9	1897.8	1895.2	1887.4	1877.3	1869.6
17.5°	1892.6	1890.1	1887.4	1882.4	1877.3	1874.6	1872.1	1864.4	1854.1	1846.5	1833.7
20°	1856.7	1854.1	1854.1	1846.5	1843.8	1836.2	1833.7	1823.4	1815.7	1800.4	1790.1
22.5°	1808.0	1810.5	1805.4	1800.4	1795.2	1787.4	1782.4	1772.1	1759.3	1743.9	1731.1
25°	1749.0	1751.6	1746.4	1741.3	1733.6	1728.5	1723.3	1708.0	1695.2	1677.2	1661.9
27.5°	1674.7	1674.7	1674.7	1669.5	1656.7	1654.1	1649.0	1633.6	1615.6	1600.3	1584.8
30°	1587.5	1584.8	1584.8	1577.2	1572.0	1561.8	1554.0	1541.2	1528.4	1510.6	1492.6
32.5°	1482.3	1484.8	1477.1	1472.0	1464.3	1464.3	1454.1	1443.8	1428.5	1410.5	1392.6
35°	1366.9	1369.4	1364.3	1361.8	1348.9	1346.4	1343.8	1331.0	1320.7	1307.9	1287.4
37.5°	1248.9	1246.4	1243.8	1243.8	1236.1	1230.9	1225.8	1218.1	1202.8	1192.5	1182.3
40°	1120.7	1120.7	1120.7	1118.1	1115.6	1110.4	1107.9	1102.8	1092.5	1082.3	1074.5
42.5°	1005.2	1005.2	1002.7	1000.2	995.1	997.6	992.4	987.4	977.1	969.4	964.3
45°	892.5	892.5	892.5	895.0	889.9	882.2	882.2	877.1	871.9	866.8	859.1
47.5°	792.5	800.1	795.0	792.5	795.0	784.7	784.7	779.7	774.5	769.4	759.1
50°	710.4	710.4	710.4	705.3	702.6	702.6	695.0	689.8	687.3	682.1	672.0
52.5°	636.0	630.9	630.9	628.4	625.7	620.6	620.6	615.5	605.2	600.1	592.4
55°	561.6	561.6	559.1	556.5	554.0	551.3	548.8	541.1	536.0	528.3	520.7
57.5°	494.9	500.0	497.5	492.4	487.2	487.2	482.1	477.0	469.3	461.6	453.9
60°	441.1	438.6	438.6	436.0	430.8	428.3	425.8	418.0	410.3	402.6	395.0
62.5°	384.7	384.7	384.7	379.5	374.4	371.9	369.3	364.2	353.9	346.2	341.1
65°	335.9	333.4	330.8	328.3	325.7	320.6	317.9	312.9	305.1	297.5	289.8
67.5°	287.3	284.6	284.6	282.1	274.5	271.8	271.8	264.2	256.5	248.7	241.0
70°	238.5	238.5	238.5	233.4	230.9	228.2	225.7	220.6	212.9	205.2	197.4
72.5°	197.4	194.9	194.9	192.4	184.6	182.1	179.5	174.4	166.6	161.6	156.5
75°	153.8	153.8	151.3	148.8	146.2	143.6	141.0	136.0	128.2	120.5	118.0
77.5°	118.0	115.4	115.4	112.9	107.7	105.2	105.2	100.0	92.4	87.2	82.1
80°	79.5	82.1	79.5	76.9	74.4	71.8	69.2	66.7	61.6	56.4	51.3
82.5°	48.8	51.3	48.8	48.8	46.1	43.6	43.6	38.5	35.9	33.3	30.8
85°	25.6	25.6	25.6	25.6	23.1	23.1	23.1	20.5	18.0	15.3	15.3
87.5°	7.7	10.3	7.7	7.7	7.7	7.7	7.7	7.7	5.2	5.2	5.2
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°	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9
2.5°	1928.5	1925.9	1923.4	1923.4	1923.4	1923.4	1923.4	1920.9	1918.2	1918.2	1918.2
5°	1923.4	1923.4	1923.4	1920.9	1918.2	1918.2	1913.1	1910.6	1908.1	1905.4	1902.9
7.5°	1918.2	1913.1	1910.6	1908.1	1905.4	1905.4	1900.3	1895.2	1895.2	1890.1	1884.9
10°	1902.9	1900.3	1895.2	1890.1	1887.4	1884.9	1879.8	1872.1	1869.6	1864.4	1859.3
12.5°	1884.9	1879.8	1874.6	1864.4	1861.8	1859.3	1849.0	1841.3	1836.2	1833.7	1820.8
15°	1861.8	1851.6	1843.8	1831.0	1828.5	1823.4	1815.7	1808.0	1797.7	1790.1	1784.9
17.5°	1820.8	1810.5	1797.7	1784.9	1779.7	1779.7	1766.9	1756.7	1743.9	1738.8	1728.5
20°	1772.1	1759.3	1749.0	1733.6	1726.0	1718.3	1710.5	1695.2	1684.9	1677.2	1664.4
22.5°	1715.7	1697.7	1684.9	1669.5	1656.7	1649.0	1636.1	1623.3	1610.5	1602.8	1592.6
25°	1643.9	1628.4	1608.0	1592.6	1584.8	1574.7	1559.2	1546.4	1533.6	1520.7	1515.6
27.5°	1564.3	1543.9	1525.9	1507.9	1500.3	1492.6	1474.6	1459.2	1449.0	1436.2	1431.0
30°	1477.1	1456.6	1436.2	1420.7	1413.0	1400.2	1389.9	1372.1	1359.3	1348.9	1336.1
32.5°	1377.1	1361.8	1343.8	1320.7	1315.6	1305.3	1290.0	1282.2	1266.9	1259.2	1248.9
35°	1269.4	1259.2	1241.2	1223.3	1215.6	1210.5	1197.6	1182.3	1172.0	1164.3	1159.2
37.5°	1166.9	1154.0	1136.1	1123.2	1118.1	1110.4	1095.1	1087.3	1077.1	1072.0	1061.7
40°	1056.6	1043.8	1031.0	1023.2	1015.5	1010.4	1000.2	992.4	982.2	974.6	971.9
42.5°	948.8	941.1	931.0	920.7	918.1	910.4	905.3	897.5	889.9	887.4	879.7
45°	851.4	843.8	833.4	823.3	820.6	815.5	813.0	805.3	800.1	800.1	800.1
47.5°	754.0	746.2	736.1	730.9	733.4	723.2	723.2	720.6	715.4	715.4	718.1
50°	666.8	656.5	654.0	648.8	643.7	638.5	641.2	633.4	633.4	638.5	636.0
52.5°	584.7	574.4	571.9	566.8	564.1	564.1	561.6	561.6	559.1	561.6	561.6
55°	510.3	502.7	497.5	492.4	489.9	489.9	489.9	487.2	484.7	489.9	492.4
57.5°	443.6	441.1	436.0	428.3	425.8	423.1	420.6	420.6	420.6	420.6	423.1
60°	384.7	379.5	374.4	366.7	366.7	364.2	361.6	359.0	359.0	359.0	359.0
62.5°	333.4	325.7	317.9	312.9	310.3	307.8	305.1	300.1	300.1	300.1	300.1
65°	282.1	274.5	269.3	264.2	259.0	259.0	253.9	251.3	246.2	243.7	238.5
67.5°	233.4	228.2	223.1	215.4	212.9	210.2	205.2	202.6	194.9	192.4	189.8
70°	189.8	182.1	176.9	171.8	169.3	164.1	159.0	153.8	148.8	143.6	138.5
72.5°	148.8	141.0	136.0	130.8	125.7	125.7	118.0	112.9	105.2	100.0	92.4
75°	110.2	102.5	97.4	89.7	87.2	84.6	76.9	71.8	64.1	56.4	51.3
77.5°	74.4	69.2	64.1	56.4	51.3	51.3	43.6	38.5	33.3	25.6	23.1
80°	46.1	41.1	35.9	30.8	30.8	25.6	23.1	18.0	12.8	10.3	7.7
82.5°	25.6	23.1	20.5	15.3	15.3	12.8	10.3	7.7	5.2	2.5	2.5
85°	12.8	10.3	7.7	7.7	5.2	5.2	5.2	2.5	2.5	0.0	0.0
87.5°	5.2	2.5	2.5	2.5	2.5	2.5	0.0	0.0	0.0	0.0	0.0
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°	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9
2.5°	1915.7	1915.7	1913.1	1913.1	1913.1	1910.6	1913.1	1910.6	1910.6	1910.6	1913.1
5°	1905.4	1900.3	1900.3	1897.8	1897.8	1895.2	1897.8	1895.2	1892.6	1890.1	1892.6
7.5°	1884.9	1879.8	1877.3	1874.6	1874.6	1874.6	1872.1	1869.6	1872.1	1864.4	1869.6
10°	1856.7	1854.1	1849.0	1846.5	1843.8	1846.5	1843.8	1838.8	1838.8	1838.8	1836.2
12.5°	1820.8	1815.7	1813.2	1810.5	1805.4	1805.4	1808.0	1802.9	1802.9	1797.7	1797.7
15°	1777.2	1772.1	1766.9	1766.9	1761.8	1761.8	1759.3	1759.3	1756.7	1754.1	1754.1
17.5°	1723.3	1715.7	1710.5	1713.1	1710.5	1708.0	1708.0	1702.8	1700.3	1702.8	1702.8
20°	1659.2	1654.1	1649.0	1651.6	1646.4	1643.9	1646.4	1638.7	1641.3	1641.3	1641.3
22.5°	1587.5	1584.8	1577.2	1577.2	1572.0	1569.5	1572.0	1572.0	1574.7	1572.0	1572.0
25°	1507.9	1502.8	1497.7	1497.7	1495.1	1492.6	1495.1	1497.7	1495.1	1497.7	1497.7
27.5°	1423.3	1415.7	1415.7	1410.5	1410.5	1413.0	1410.5	1413.0	1415.7	1415.7	1420.7
30°	1331.0	1328.5	1325.8	1323.3	1323.3	1325.8	1325.8	1325.8	1328.5	1333.5	1333.5
32.5°	1243.8	1238.6	1233.6	1233.6	1238.6	1236.1	1238.6	1238.6	1243.8	1243.8	1248.9
35°	1148.9	1148.9	1143.7	1146.4	1146.4	1146.4	1146.4	1151.5	1156.5	1159.2	1164.3
37.5°	1061.7	1054.0	1056.6	1056.6	1059.2	1056.6	1064.3	1064.3	1069.5	1069.5	1074.5
40°	966.8	966.8	969.4	966.8	969.4	969.4	974.6	979.6	982.2	987.4	989.9
42.5°	877.1	882.2	877.1	879.7	882.2	884.7	887.4	889.9	900.2	905.3	913.0
45°	795.0	797.5	800.1	802.7	800.1	805.3	807.8	813.0	820.6	823.3	825.8
47.5°	715.4	718.1	720.6	723.2	723.2	728.4	730.9	736.1	741.2	743.7	746.2
50°	638.5	643.7	646.2	646.2	648.8	654.0	659.1	659.1	664.2	672.0	674.5
52.5°	569.3	569.3	574.4	577.1	579.6	579.6	587.3	589.9	592.4	597.6	602.7
55°	492.4	500.0	502.7	502.7	507.8	512.9	515.5	518.0	518.0	528.3	528.3
57.5°	425.8	428.3	433.4	433.4	433.4	441.1	441.1	446.3	448.8	451.4	456.4
60°	359.0	364.2	364.2	366.7	364.2	369.3	371.9	377.0	379.5	382.2	384.7
62.5°	297.5	297.5	300.1	300.1	300.1	300.1	305.1	305.1	310.3	312.9	315.4
65°	238.5	238.5	238.5	238.5	238.5	238.5	238.5	238.5	241.0	241.0	246.2
67.5°	184.6	182.1	176.9	179.5	176.9	176.9	174.4	174.4	176.9	176.9	182.1
70°	133.3	130.8	125.7	125.7	123.2	120.5	118.0	115.4	112.9	112.9	112.9
72.5°	87.2	82.1	74.4	71.8	71.8	66.7	61.6	58.9	58.9	58.9	58.9
75°	43.6	38.5	33.3	30.8	30.8	25.6	28.2	25.6	25.6	25.6	25.6
77.5°	18.0	12.8	10.3	10.3	10.3	7.7	7.7	7.7	7.7	7.7	7.7
80°	5.2	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
82.5°	2.5	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
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P584463

CATALOG NUMBER: HC835D010-HM82555930-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9	1920.9
2.5°	1910.6	1910.6	1905.4	1908.1	1908.1	1908.1	1908.1	1908.1
5°	1887.4	1890.1	1887.4	1890.1	1890.1	1887.4	1887.4	1887.4
7.5°	1864.4	1867.0	1864.4	1867.0	1867.0	1867.0	1864.4	1864.4
10°	1836.2	1836.2	1836.2	1836.2	1836.2	1833.7	1836.2	1836.2
12.5°	1797.7	1797.7	1797.7	1800.4	1800.4	1797.7	1797.7	1795.2
15°	1756.7	1751.6	1754.1	1756.7	1754.1	1754.1	1754.1	1754.1
17.5°	1700.3	1702.8	1700.3	1700.3	1700.3	1700.3	1702.8	1700.3
20°	1641.3	1641.3	1643.9	1641.3	1641.3	1641.3	1641.3	1638.7
22.5°	1574.7	1572.0	1572.0	1574.7	1574.7	1572.0	1574.7	1574.7
25°	1500.3	1502.8	1500.3	1500.3	1502.8	1502.8	1502.8	1500.3
27.5°	1420.7	1423.3	1425.9	1423.3	1423.3	1423.3	1425.9	1428.5
30°	1338.6	1343.8	1338.6	1338.6	1343.8	1341.3	1343.8	1343.8
32.5°	1251.4	1259.2	1254.1	1259.2	1259.2	1261.7	1259.2	1261.7
35°	1164.3	1172.0	1172.0	1172.0	1174.5	1177.2	1177.2	1174.5
37.5°	1082.3	1084.8	1084.8	1089.9	1092.5	1095.1	1095.1	1092.5
40°	997.6	1002.7	1005.2	1005.2	1005.2	1010.4	1015.5	1010.4
42.5°	915.5	918.1	920.7	920.7	925.8	928.3	931.0	931.0
45°	836.1	841.1	843.8	846.3	848.9	853.9	851.4	856.6
47.5°	754.0	761.7	764.2	766.8	771.9	774.5	777.0	779.7
50°	679.6	684.8	684.8	689.8	697.6	697.6	702.6	705.3
52.5°	605.2	607.7	610.4	612.9	618.0	623.2	623.2	628.4
55°	533.5	536.0	536.0	538.5	541.1	551.3	554.0	554.0
57.5°	459.1	459.1	464.2	466.7	469.3	474.4	474.4	474.4
60°	387.2	389.8	389.8	392.3	395.0	400.0	402.6	400.0
62.5°	315.4	317.9	317.9	320.6	325.7	328.3	325.7	325.7
65°	248.7	251.3	251.3	253.9	259.0	259.0	256.5	259.0
67.5°	182.1	182.1	182.1	182.1	182.1	182.1	182.1	182.1
70°	115.4	112.9	110.2	112.9	112.9	112.9	110.2	115.4
72.5°	56.4	58.9	58.9	58.9	58.9	58.9	58.9	56.4
75°	25.6	25.6	23.1	23.1	23.1	25.6	25.6	23.1
77.5°	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
80°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
82.5°	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
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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)