

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: P584404

Luminaire Tested: **HC835D010-HM82555830-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584404
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-18)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC835D010-HM82555830-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3692.1 lumens
Efficiency: N/A
Efficacy: 109.6 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.09 / 1.18
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

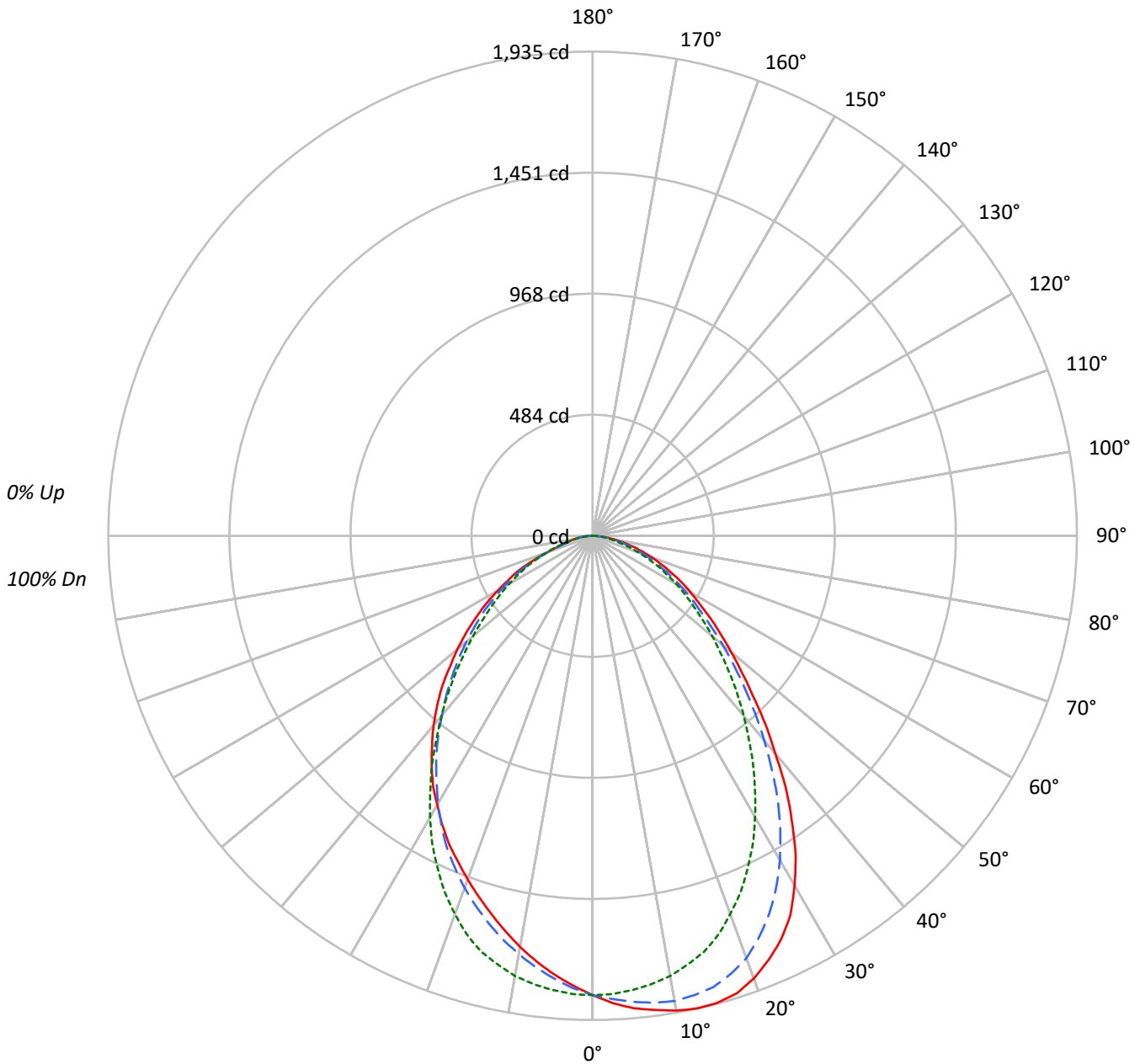
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87					87			
2	102	94	88	83	99	93	87	82	89	85	81	86	82	79	83	80	77	75					75			
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	71	67	65					65			
4	87	76	68	62	84	75	67	61	72	66	61	70	64	60	68	63	59	57					57			
5	80	69	60	54	78	67	60	54	65	59	54	64	58	53	62	57	52	50					50			
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45					45			
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40					40			
8	65	52	45	39	64	52	44	39	51	44	39	49	43	39	48	43	38	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	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	56606	56606	56606
5°	58680	56417	54482
10°	60338	55930	52253
15°	61681	54938	49945
20°	61781	52793	47917
25°	60594	49859	46222
30°	57473	46235	44195
35°	52220	42113	42207
40°	45660	37790	39779
45°	39571	33662	37072
50°	34651	29897	33778
55°	30838	26499	30563
60°	27814	23799	26858
65°	25115	20926	23400
70°	22576	17626	17401
75°	19885	13975	13046
80°	16675	11578	12502
85°	12914	10119	11074



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.2	4.7
10°-20°	487.8	13.2
20°-30°	697.1	18.9
30°-40°	740.7	20.1
40°-50°	637.7	17.3
50°-60°	476.8	12.9
60°-70°	304.1	8.2
70°-80°	138.4	3.7
80°-90°	36.3	1.0
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°	1358.0	36.8
0°-40°	2098.7	56.8
0°-60°	3213.2	87.0
0°-90°	3692.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3692.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1836	1836	1836	1836	1836	
5°	1896	1870	1823	1776	1760	182
15°	1932	1867	1721	1604	1564	544
25°	1781	1669	1465	1377	1358	815
35°	1387	1291	1119	1090	1121	864
45°	907	858	772	793	850	705
55°	574	527	493	534	568	516
65°	344	305	287	300	321	343
75°	167	143	117	107	110	177
85°	36	31	29	31	31	44
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°	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7
2.5°	1869.6	1864.4	1867.0	1864.4	1867.0	1867.0	1861.8	1861.8	1861.8	1861.8	1853.9
5°	1895.7	1893.1	1893.1	1890.4	1887.8	1890.4	1887.8	1885.3	1880.0	1877.4	1869.6
7.5°	1911.3	1911.3	1911.3	1911.3	1908.8	1906.1	1903.5	1898.2	1893.1	1887.8	1882.7
10°	1927.0	1929.6	1927.0	1924.3	1921.7	1916.6	1913.9	1908.8	1900.9	1893.1	1887.8
12.5°	1934.8	1934.8	1932.1	1932.1	1927.0	1924.3	1916.6	1908.8	1900.9	1893.1	1880.0
15°	1932.1	1932.1	1929.6	1927.0	1919.2	1916.6	1911.3	1903.5	1890.4	1880.0	1867.0
17.5°	1916.6	1913.9	1908.8	1908.8	1898.2	1895.7	1890.4	1880.0	1867.0	1851.4	1835.7
20°	1882.7	1882.7	1880.0	1877.4	1867.0	1859.2	1853.9	1841.0	1830.5	1812.2	1796.6
22.5°	1835.7	1841.0	1835.7	1830.5	1817.5	1814.9	1807.1	1791.4	1775.8	1754.8	1736.6
25°	1780.9	1778.3	1775.8	1770.5	1760.1	1754.8	1744.4	1728.8	1713.1	1689.7	1668.8
27.5°	1710.5	1700.1	1700.1	1689.7	1681.9	1674.1	1668.8	1653.2	1632.3	1614.1	1587.9
30°	1614.1	1616.7	1603.6	1601.0	1587.9	1582.8	1572.4	1556.7	1538.5	1517.6	1496.8
32.5°	1509.7	1501.9	1501.9	1491.5	1481.1	1473.3	1470.7	1452.5	1436.8	1415.9	1395.1
35°	1387.2	1387.2	1379.4	1376.7	1366.3	1361.2	1353.3	1342.8	1324.6	1306.4	1290.7
37.5°	1267.2	1262.1	1259.5	1254.2	1246.4	1238.6	1238.6	1220.3	1217.8	1196.8	1176.0
40°	1134.3	1139.5	1134.3	1126.5	1123.8	1118.7	1116.1	1105.6	1097.7	1079.5	1066.5
42.5°	1022.1	1017.0	1017.0	1014.3	1003.9	1003.9	998.7	993.5	980.4	975.2	959.6
45°	907.4	912.6	904.8	907.4	896.9	896.9	896.9	886.5	876.1	868.3	857.9
47.5°	808.3	810.9	810.9	803.1	800.5	800.5	795.4	790.1	782.3	771.9	764.0
50°	722.3	724.9	719.6	717.1	711.9	709.2	709.2	698.8	693.6	683.2	677.9
52.5°	644.0	644.0	641.4	641.4	633.6	633.6	628.5	620.6	615.4	610.1	597.1
55°	573.6	573.6	571.1	568.5	568.5	560.7	558.0	550.2	545.0	534.5	526.8
57.5°	505.9	508.4	505.9	503.3	500.6	498.0	492.9	485.0	479.8	472.0	466.7
60°	451.0	451.0	448.5	445.9	440.6	438.1	435.5	430.2	422.4	417.3	409.4
62.5°	398.9	396.3	393.8	391.1	385.9	385.9	380.7	375.5	367.7	362.4	357.2
65°	344.2	344.2	341.5	341.5	339.0	333.8	331.1	328.5	318.1	315.6	305.1
67.5°	294.7	297.2	292.1	292.1	286.8	286.8	284.2	276.4	273.7	268.6	263.3
70°	250.4	250.4	250.4	247.7	242.5	239.8	237.3	232.1	229.4	224.3	219.0
72.5°	205.9	205.9	203.4	203.4	200.8	198.1	195.5	190.4	190.4	185.1	179.9
75°	166.9	166.9	164.2	161.6	159.1	159.1	156.5	153.8	148.7	146.0	143.4
77.5°	127.8	127.8	127.8	125.2	122.6	122.6	122.6	117.3	112.1	112.1	109.5
80°	93.9	93.9	91.3	91.3	88.7	88.7	88.7	86.0	83.5	80.9	78.2
82.5°	62.5	62.5	62.5	62.5	60.0	60.0	60.0	57.4	54.7	54.7	54.7
85°	36.5	36.5	36.5	36.5	33.9	33.9	33.9	33.9	33.9	31.3	31.3
87.5°	15.7	13.1	15.7	13.1	15.7	13.1	15.7	13.1	13.1	13.1	13.1
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°	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7
2.5°	1856.5	1853.9	1851.4	1848.8	1848.8	1846.1	1841.0	1838.3	1835.7	1833.1	1833.1
5°	1867.0	1864.4	1859.2	1853.9	1851.4	1846.1	1841.0	1835.7	1830.5	1822.6	1820.1
7.5°	1874.9	1867.0	1861.8	1851.4	1848.8	1843.5	1835.7	1827.9	1817.5	1807.1	1799.2
10°	1874.9	1864.4	1856.5	1843.5	1838.3	1833.1	1822.6	1809.6	1796.6	1786.2	1773.2
12.5°	1869.6	1856.5	1843.5	1830.5	1822.6	1814.9	1799.2	1786.2	1770.5	1754.8	1744.4
15°	1851.4	1835.7	1820.1	1804.4	1796.6	1786.2	1770.5	1752.3	1736.6	1720.9	1702.7
17.5°	1817.5	1801.8	1783.6	1765.3	1754.8	1747.0	1723.6	1710.5	1687.0	1671.4	1655.8
20°	1773.2	1754.8	1731.3	1713.1	1700.1	1692.3	1674.1	1650.6	1632.3	1608.8	1593.2
22.5°	1715.8	1692.3	1668.8	1650.6	1637.5	1627.1	1603.6	1580.2	1564.5	1543.6	1525.4
25°	1648.0	1624.5	1601.0	1575.0	1562.0	1551.5	1530.7	1509.7	1488.9	1465.4	1449.8
27.5°	1567.1	1541.1	1520.1	1496.8	1483.7	1468.0	1444.5	1423.7	1402.9	1387.2	1366.3
30°	1478.5	1449.8	1429.0	1405.5	1392.4	1379.4	1355.9	1335.1	1316.8	1298.5	1288.1
32.5°	1371.6	1350.7	1329.9	1306.4	1296.0	1288.1	1264.6	1243.8	1222.9	1207.3	1199.4
35°	1269.9	1246.4	1228.2	1207.3	1194.3	1186.4	1165.5	1147.3	1136.9	1118.7	1108.1
37.5°	1163.0	1144.7	1123.8	1103.0	1095.2	1087.3	1071.7	1053.4	1037.8	1024.8	1019.5
40°	1050.9	1035.2	1017.0	1003.9	996.1	988.2	975.2	962.2	951.8	938.8	933.5
42.5°	943.9	933.5	917.9	902.2	894.4	891.8	876.1	865.7	860.5	855.3	850.1
45°	847.5	831.8	821.3	810.9	803.1	797.9	790.1	782.3	777.0	771.9	766.6
47.5°	753.5	740.5	730.1	722.3	714.5	711.9	706.7	698.8	693.6	693.6	693.6
50°	667.5	657.1	646.7	641.4	638.9	633.6	628.5	625.8	623.2	623.2	623.2
52.5°	591.9	581.5	573.6	568.5	568.5	563.2	558.0	555.4	555.4	555.4	555.4
55°	521.5	513.7	508.4	503.3	498.0	495.5	495.5	495.5	492.9	492.9	495.5
57.5°	459.0	453.7	445.9	440.6	438.1	438.1	435.5	432.8	435.5	438.1	440.6
60°	401.6	396.3	393.8	385.9	385.9	385.9	383.4	383.4	383.4	385.9	388.5
62.5°	349.5	346.8	341.5	339.0	336.4	336.4	333.8	333.8	333.8	333.8	336.4
65°	302.5	297.2	292.1	292.1	292.1	289.4	289.4	284.2	286.8	286.8	284.2
67.5°	258.2	252.9	250.4	247.7	245.1	245.1	242.5	239.8	237.3	237.3	237.3
70°	216.5	211.2	211.2	205.9	205.9	203.4	200.8	200.8	198.1	195.5	193.0
72.5°	174.7	172.2	169.5	166.9	166.9	166.9	164.2	161.6	159.1	156.5	151.2
75°	138.2	138.2	133.0	130.3	130.3	127.8	125.2	122.6	119.9	117.3	114.8
77.5°	106.9	104.3	99.1	96.4	96.4	96.4	93.9	91.3	88.7	86.0	83.5
80°	78.2	75.6	73.0	70.4	70.4	70.4	67.8	67.8	65.2	65.2	65.2
82.5°	52.1	52.1	49.6	49.6	49.6	49.6	47.0	47.0	47.0	47.0	47.0
85°	31.3	31.3	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6
87.5°	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1
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°	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7
2.5°	1827.9	1827.9	1822.6	1820.1	1817.5	1820.1	1814.9	1812.2	1809.6	1809.6	1807.1
5°	1812.2	1809.6	1799.2	1796.6	1794.0	1791.4	1786.2	1780.9	1775.8	1773.2	1770.5
7.5°	1791.4	1783.6	1773.2	1770.5	1767.9	1760.1	1752.3	1747.0	1739.3	1736.6	1731.3
10°	1762.7	1752.3	1744.4	1736.6	1731.3	1723.6	1715.8	1708.0	1697.6	1694.9	1687.0
12.5°	1728.8	1715.8	1700.1	1697.6	1689.7	1679.2	1668.8	1661.0	1653.2	1648.0	1640.2
15°	1687.0	1674.1	1658.4	1650.6	1642.7	1634.9	1621.9	1611.4	1603.6	1595.9	1587.9
17.5°	1637.5	1621.9	1608.8	1601.0	1595.9	1582.8	1572.4	1559.3	1551.5	1543.6	1535.8
20°	1577.5	1564.5	1546.3	1538.5	1535.8	1525.4	1512.4	1507.2	1496.8	1488.9	1483.7
22.5°	1509.7	1496.8	1481.1	1475.8	1465.4	1460.2	1447.2	1441.9	1436.8	1429.0	1426.3
25°	1434.1	1421.1	1408.1	1405.5	1397.6	1392.4	1384.6	1376.7	1376.7	1369.0	1369.0
27.5°	1355.9	1342.8	1332.4	1327.3	1324.6	1319.4	1311.6	1308.9	1306.4	1303.8	1303.8
30°	1272.5	1256.8	1251.7	1249.0	1246.4	1241.2	1238.6	1233.3	1236.0	1238.6	1236.0
32.5°	1183.9	1178.6	1168.2	1163.0	1165.5	1163.0	1157.7	1163.0	1160.4	1165.5	1168.2
35°	1097.7	1092.6	1087.3	1087.3	1082.2	1082.2	1082.2	1084.8	1089.9	1092.6	1097.7
37.5°	1014.3	1006.6	1003.9	1001.3	1003.9	1003.9	1003.9	1009.1	1014.3	1019.5	1027.4
40°	925.7	920.4	920.4	920.4	920.4	928.3	925.7	930.8	936.1	943.9	951.8
42.5°	842.2	842.2	844.8	844.8	844.8	844.8	850.1	857.9	865.7	873.6	881.4
45°	764.0	764.0	764.0	769.2	769.2	771.9	782.3	787.4	792.7	800.5	808.3
47.5°	691.0	691.0	693.6	696.2	698.8	704.1	709.2	717.1	724.9	730.1	738.0
50°	623.2	625.8	631.0	636.3	636.3	638.9	646.7	651.8	657.1	664.9	667.5
52.5°	558.0	563.2	568.5	571.1	573.6	578.9	581.5	589.3	591.9	599.7	602.4
55°	498.0	500.6	508.4	511.1	511.1	516.3	521.5	526.8	534.5	534.5	539.8
57.5°	443.3	445.9	451.0	453.7	451.0	459.0	461.6	466.7	469.4	474.5	477.2
60°	388.5	393.8	396.3	396.3	398.9	401.6	406.7	406.7	412.0	417.3	417.3
62.5°	336.4	339.0	341.5	344.2	346.8	344.2	352.0	352.0	357.2	359.9	365.0
65°	286.8	289.4	289.4	292.1	292.1	294.7	294.7	297.2	299.9	305.1	307.6
67.5°	237.3	237.3	237.3	239.8	237.3	239.8	239.8	242.5	242.5	247.7	250.4
70°	193.0	190.4	187.7	187.7	187.7	187.7	185.1	187.7	187.7	190.4	190.4
72.5°	148.7	146.0	143.4	140.8	140.8	138.2	135.6	138.2	138.2	140.8	140.8
75°	112.1	106.9	106.9	106.9	104.3	104.3	104.3	106.9	106.9	106.9	109.5
77.5°	83.5	83.5	80.9	80.9	80.9	83.5	83.5	86.0	86.0	86.0	86.0
80°	62.5	65.2	65.2	65.2	65.2	67.8	67.8	67.8	67.8	70.4	70.4
82.5°	47.0	47.0	47.0	47.0	49.6	49.6	49.6	49.6	49.6	49.6	49.6
85°	28.6	31.3	31.3	28.6	31.3	31.3	31.3	31.3	31.3	31.3	31.3
87.5°	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1
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: P584404

CATALOG NUMBER: HC835D010-HM82555830-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7	1835.7
2.5°	1804.4	1804.4	1804.4	1804.4	1801.8	1801.8	1801.8	1799.2
5°	1765.3	1765.3	1765.3	1760.1	1762.7	1762.7	1757.5	1760.1
7.5°	1726.2	1723.6	1720.9	1720.9	1718.4	1715.8	1713.1	1715.8
10°	1681.9	1674.1	1674.1	1671.4	1671.4	1666.2	1666.2	1668.8
12.5°	1632.3	1627.1	1627.1	1624.5	1621.9	1619.3	1616.7	1616.7
15°	1582.8	1577.5	1575.0	1572.4	1569.7	1564.5	1567.1	1564.5
17.5°	1533.2	1525.4	1525.4	1522.8	1520.1	1515.0	1515.0	1512.4
20°	1475.8	1473.3	1468.0	1470.7	1468.0	1462.9	1460.2	1460.2
22.5°	1418.6	1418.6	1415.9	1415.9	1413.3	1410.6	1408.1	1408.1
25°	1363.8	1361.2	1363.8	1363.8	1355.9	1355.9	1355.9	1358.5
27.5°	1301.1	1303.8	1301.1	1301.1	1301.1	1301.1	1303.8	1301.1
30°	1238.6	1238.6	1238.6	1241.2	1246.4	1243.8	1243.8	1241.2
32.5°	1170.8	1173.4	1173.4	1176.0	1178.6	1183.9	1183.9	1186.4
35°	1103.0	1108.1	1110.8	1108.1	1116.1	1116.1	1121.2	1121.2
37.5°	1032.6	1035.2	1040.5	1043.0	1048.2	1050.9	1053.4	1053.4
40°	957.0	967.4	970.0	972.7	980.4	980.4	983.1	988.2
42.5°	886.5	896.9	899.6	902.2	907.4	915.3	912.6	917.9
45°	818.7	826.6	829.3	831.8	839.7	842.2	842.2	850.1
47.5°	745.8	751.0	753.5	758.8	764.0	769.2	774.4	771.9
50°	672.8	680.6	685.7	688.4	696.2	698.8	701.4	704.1
52.5°	607.5	612.8	615.4	617.9	625.8	628.5	631.0	636.3
55°	545.0	547.6	552.8	550.2	558.0	560.7	563.2	568.5
57.5°	482.4	485.0	487.6	487.6	492.9	498.0	500.6	503.3
60°	422.4	427.7	430.2	430.2	430.2	435.5	435.5	435.5
62.5°	367.7	367.7	370.3	370.3	375.5	375.5	375.5	375.5
65°	310.3	312.9	315.6	315.6	320.7	318.1	323.3	320.7
67.5°	250.4	250.4	255.5	255.5	252.9	255.5	255.5	255.5
70°	190.4	190.4	193.0	193.0	193.0	193.0	193.0	193.0
72.5°	140.8	140.8	140.8	143.4	140.8	140.8	143.4	140.8
75°	109.5	109.5	109.5	109.5	109.5	109.5	109.5	109.5
77.5°	86.0	86.0	88.7	88.7	88.7	88.7	88.7	88.7
80°	70.4	70.4	70.4	70.4	73.0	70.4	70.4	70.4
82.5°	52.1	49.6	52.1	49.6	52.1	52.1	52.1	52.1
85°	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
87.5°	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1
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)