

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: P584504

Luminaire Tested: **HC835D010-HM82555940-81WWBB**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584504  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-17)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC835D010-HM82555940-81WWBB  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3549.9 lumens  
Efficiency: N/A  
Efficacy: 105.3 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.07 / 1.16  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

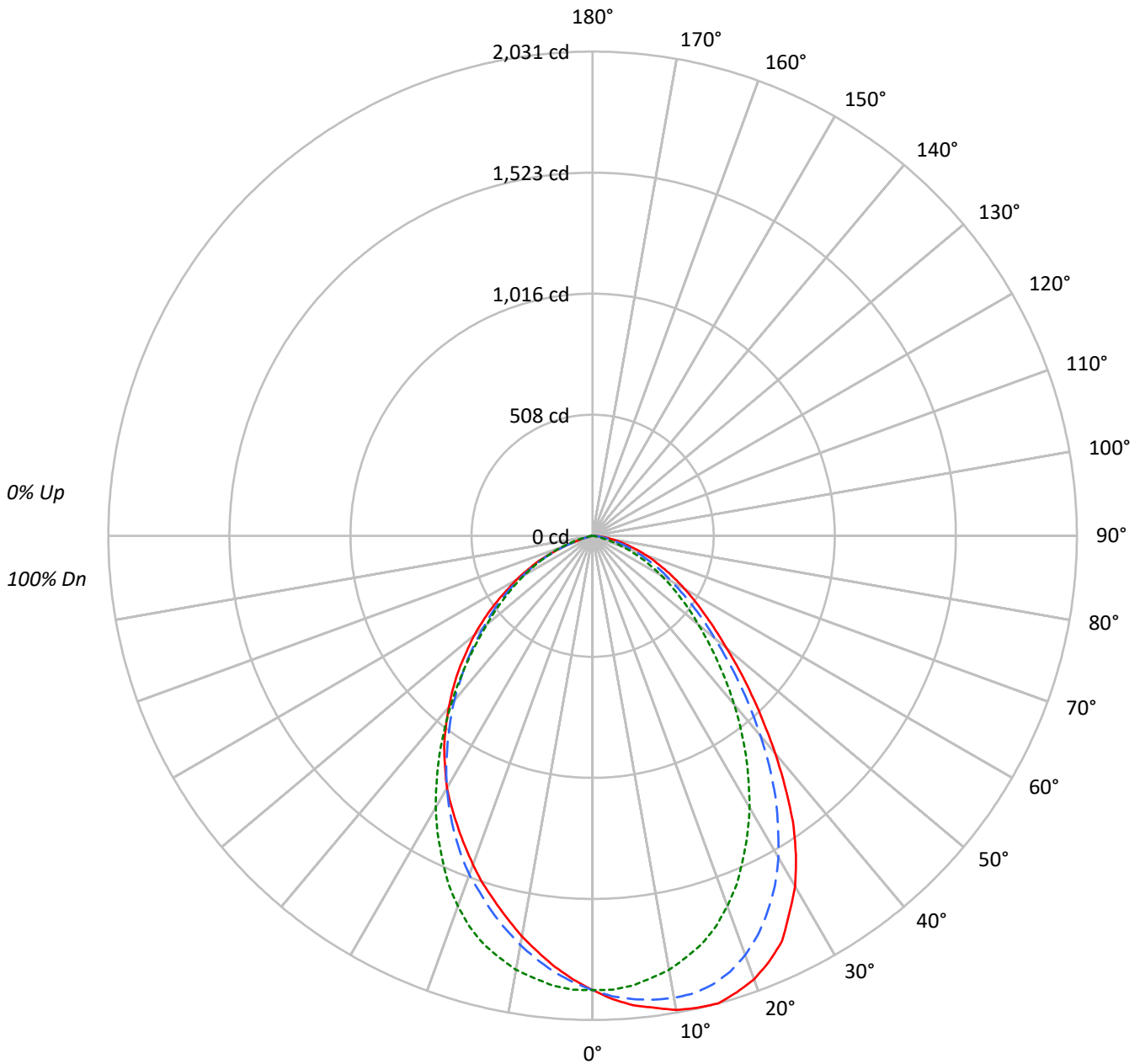
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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			100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88			88
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77			77
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67			67
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59			59
5	82	70	63	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53			53
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	58	53	49	47			47
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	49	44	43			43
8	66	54	46	41	65	53	46	41	52	46	41	51	45	41	50	44	40	39			39
9	62	50	43	37	61	50	42	37	48	42	37	47	41	37	46	41	37	35			35
10	59	47	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32			32

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	58768	58768	58768
5°	61199	58639	56169
10°	63241	57890	53431
15°	64841	56563	50657
20°	64968	54221	48143
25°	63873	50788	45654
30°	60453	46862	43515
35°	55119	42143	40859
40°	47934	37150	37726
45°	41119	32175	34538
50°	35121	27743	31024
55°	30784	23897	26956
60°	27413	20377	22659
65°	24319	16629	18088
70°	21566	12325	10269
75°	17979	6446	3050
80°	14171	2024	515
85°	10084	1026	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	179.6	5.1
10°-20°	503.3	14.2
20°-30°	712.4	20.1
30°-40°	745.3	21.0
40°-50°	621.6	17.5
50°-60°	440.8	12.4
60°-70°	253.9	7.2
70°-80°	81.7	2.3
80°-90°	11.3	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°	1395.3	39.3
0°-40°	2140.6	60.3
0°-60°	3203.1	90.2
0°-90°	3549.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3549.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1906	1906	1906	1906	1906	
5°	1977	1951	1894	1837	1815	190
15°	2031	1948	1772	1632	1587	571
25°	1877	1738	1493	1373	1342	857
35°	1464	1336	1120	1060	1085	908
45°	943	866	738	746	792	731
55°	573	513	444	467	501	517
65°	333	279	228	228	248	333
75°	151	111	54	26	26	164
85°	28	14	3	0	0	36
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°	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8
2.5°	1945.7	1942.8	1939.9	1942.8	1939.9	1942.8	1939.9	1939.9	1937.2	1934.3	1934.3
5°	1977.1	1974.2	1974.2	1974.2	1971.3	1968.4	1968.4	1965.6	1959.9	1957.1	1951.4
7.5°	1996.9	1999.8	1999.8	1999.8	1994.1	1994.1	1988.4	1982.7	1977.1	1971.3	1962.8
10°	2019.7	2019.7	2016.8	2014.1	2008.3	2005.5	2002.7	1996.9	1988.4	1977.1	1968.4
12.5°	2028.3	2028.3	2025.5	2019.7	2016.8	2014.1	2011.2	2002.7	1991.2	1977.1	1965.6
15°	2031.1	2025.5	2022.6	2019.7	2014.1	2005.5	2005.5	1994.1	1979.8	1962.8	1948.5
17.5°	2008.3	2011.2	2005.5	1999.8	1991.2	1985.6	1977.1	1968.4	1951.4	1931.4	1917.2
20°	1979.8	1977.1	1974.2	1965.6	1954.2	1951.4	1942.8	1928.5	1914.3	1891.5	1871.6
22.5°	1934.3	1931.4	1925.8	1920.0	1908.7	1902.9	1894.4	1877.3	1857.4	1834.6	1811.7
25°	1877.3	1871.6	1863.0	1851.6	1843.1	1837.4	1826.0	1809.0	1786.1	1760.5	1737.7
27.5°	1786.1	1794.7	1789.0	1771.8	1763.3	1752.0	1749.1	1726.3	1706.4	1680.8	1655.2
30°	1697.8	1697.8	1689.3	1680.8	1666.5	1657.9	1646.5	1629.5	1609.5	1578.1	1558.2
32.5°	1586.8	1583.9	1572.5	1569.6	1558.2	1541.1	1538.4	1515.5	1495.6	1472.8	1447.2
35°	1464.2	1458.6	1447.2	1438.6	1432.9	1424.3	1415.8	1395.9	1375.9	1353.1	1336.0
37.5°	1324.6	1324.6	1321.8	1307.6	1301.9	1296.1	1287.6	1267.7	1256.2	1233.5	1216.4
40°	1190.8	1187.9	1179.3	1176.6	1170.8	1162.3	1156.5	1145.2	1128.0	1111.0	1093.9
42.5°	1059.8	1062.6	1051.1	1054.0	1042.6	1037.0	1034.1	1017.0	1008.5	991.3	977.1
45°	942.9	940.1	934.3	931.6	925.8	920.2	914.4	905.9	891.7	874.5	866.0
47.5°	834.6	826.1	826.1	823.3	820.4	809.0	806.1	797.6	789.1	772.0	760.6
50°	732.1	732.1	732.1	729.2	720.7	717.8	712.2	703.6	695.1	683.7	666.6
52.5°	649.6	649.6	649.6	646.7	635.3	632.4	629.5	618.2	606.8	598.3	586.8
55°	572.6	575.4	572.6	566.9	558.4	558.4	549.8	544.1	532.8	524.1	512.7
57.5°	507.1	507.1	501.4	498.5	492.9	490.0	484.2	478.6	464.3	455.8	441.6
60°	444.5	441.6	441.6	435.8	430.2	424.5	421.6	413.1	407.3	393.1	381.7
62.5°	387.4	387.4	381.7	381.7	370.3	370.3	367.4	358.9	350.4	336.2	330.4
65°	333.3	333.3	330.4	327.7	319.0	316.2	313.4	304.8	296.3	287.8	279.1
67.5°	284.9	284.9	279.1	276.4	270.6	267.8	262.1	256.4	247.9	239.2	230.7
70°	239.2	236.5	233.6	230.7	225.1	222.2	216.5	210.8	202.2	196.6	188.0
72.5°	193.7	193.7	190.8	185.2	182.3	179.5	176.6	171.0	162.3	153.8	148.2
75°	150.9	150.9	150.9	145.3	139.6	136.7	136.7	131.1	125.3	116.8	111.1
77.5°	116.8	113.9	111.1	111.1	105.4	102.5	99.7	96.8	88.3	85.4	79.8
80°	79.8	82.7	79.8	76.9	74.0	71.2	71.2	65.5	62.7	57.0	51.3
82.5°	54.1	51.3	51.3	48.4	48.4	45.5	45.5	39.9	37.0	34.1	31.4
85°	28.5	28.5	25.6	25.6	25.6	22.8	22.8	19.9	19.9	17.1	14.3
87.5°	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	5.8	5.8	5.8
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°	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8
2.5°	1931.4	1925.8	1922.9	1922.9	1920.0	1917.2	1914.3	1911.5	1905.8	1905.8	1900.1
5°	1945.7	1939.9	1937.2	1928.5	1922.9	1922.9	1911.5	1908.7	1900.1	1894.4	1888.6
7.5°	1957.1	1945.7	1937.2	1928.5	1922.9	1917.2	1905.8	1894.4	1883.0	1871.6	1865.9
10°	1957.1	1945.7	1931.4	1917.2	1911.5	1905.8	1891.5	1874.5	1860.3	1848.8	1834.6
12.5°	1951.4	1934.3	1917.2	1905.8	1894.4	1885.9	1868.8	1851.6	1834.6	1811.7	1800.4
15°	1934.3	1911.5	1894.4	1874.5	1865.9	1851.6	1837.4	1811.7	1791.8	1771.8	1757.7
17.5°	1900.1	1871.6	1851.6	1831.7	1817.5	1809.0	1786.1	1763.3	1740.6	1717.8	1700.7
20°	1848.8	1823.1	1800.4	1774.7	1763.3	1752.0	1723.4	1700.7	1677.9	1652.3	1635.2
22.5°	1786.1	1760.5	1729.2	1709.2	1692.2	1677.9	1652.3	1626.6	1603.9	1581.0	1558.2
25°	1709.2	1683.5	1655.2	1623.8	1612.4	1598.1	1569.6	1544.0	1518.3	1492.7	1472.8
27.5°	1626.6	1592.4	1569.6	1535.5	1524.1	1509.8	1478.5	1449.9	1427.2	1407.3	1384.5
30°	1526.9	1501.2	1469.9	1438.6	1427.2	1412.9	1387.3	1361.6	1338.9	1316.1	1293.4
32.5°	1418.7	1393.0	1361.6	1338.9	1321.8	1310.4	1284.7	1262.0	1239.2	1216.4	1196.4
35°	1304.7	1276.2	1253.5	1230.6	1216.4	1202.2	1176.6	1156.5	1139.5	1119.5	1099.6
37.5°	1187.9	1167.9	1145.2	1119.5	1105.3	1093.9	1074.0	1051.1	1037.0	1019.9	1005.6
40°	1074.0	1051.1	1031.2	1008.5	997.1	988.5	968.6	951.5	937.2	922.9	914.4
42.5°	957.2	937.2	917.3	903.1	894.5	885.9	871.7	851.8	843.3	829.0	820.4
45°	848.9	831.8	817.6	797.6	792.0	786.2	769.1	754.9	746.4	737.8	732.1
47.5°	746.4	735.0	717.8	706.5	698.0	692.2	680.8	669.4	660.9	655.2	649.6
50°	658.1	643.8	632.4	621.0	615.3	606.8	595.4	589.7	584.0	578.3	578.3
52.5°	575.4	561.1	549.8	541.3	535.5	529.9	521.4	518.5	512.7	512.7	509.9
55°	498.5	490.0	478.6	467.2	464.3	461.5	455.8	450.1	447.2	444.5	447.2
57.5°	433.0	424.5	413.1	404.6	401.7	398.8	395.9	390.3	387.4	387.4	387.4
60°	373.2	364.7	356.0	347.5	347.5	341.8	339.0	336.2	333.3	330.4	330.4
62.5°	319.0	310.5	302.0	296.3	293.4	290.5	284.9	282.0	279.1	279.1	276.4
65°	270.6	259.2	256.4	247.9	245.0	242.1	239.2	233.6	230.7	227.9	225.1
67.5°	222.2	216.5	208.0	202.2	199.5	196.6	193.7	188.0	185.2	182.3	176.6
70°	179.5	173.8	168.1	162.3	159.6	156.7	150.9	145.3	142.4	136.7	128.2
72.5°	139.6	133.9	128.2	122.4	119.7	116.8	111.1	105.4	99.7	94.0	88.3
75°	105.4	99.7	91.2	85.4	82.7	82.7	74.0	68.4	62.7	54.1	48.4
77.5°	74.0	65.5	62.7	57.0	54.1	48.4	42.8	37.0	31.4	28.5	22.8
80°	48.4	42.8	37.0	34.1	31.4	28.5	25.6	19.9	14.3	11.4	8.5
82.5°	28.5	25.6	22.8	19.9	17.1	14.3	11.4	11.4	8.5	5.8	2.9
85°	14.3	11.4	8.5	8.5	5.8	5.8	5.8	2.9	2.9	2.9	2.9
87.5°	5.8	2.9	2.9	2.9	2.9	2.9	2.9	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°	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8
2.5°	1897.3	1894.4	1891.5	1888.6	1888.6	1883.0	1883.0	1880.1	1874.5	1871.6	1871.6
5°	1880.1	1871.6	1865.9	1863.0	1860.3	1851.6	1848.8	1843.1	1837.4	1831.7	1828.9
7.5°	1854.5	1840.2	1834.6	1831.7	1823.1	1814.6	1809.0	1800.4	1791.8	1783.3	1780.5
10°	1823.1	1809.0	1794.7	1789.0	1780.5	1774.7	1763.3	1752.0	1743.4	1734.8	1726.3
12.5°	1783.3	1766.2	1752.0	1746.2	1737.7	1726.3	1709.2	1703.6	1689.3	1683.5	1672.2
15°	1737.7	1717.8	1703.6	1694.9	1686.4	1669.3	1657.9	1646.5	1632.3	1626.6	1615.3
17.5°	1680.8	1657.9	1643.7	1635.2	1629.5	1615.3	1598.1	1583.9	1569.6	1564.0	1555.4
20°	1612.4	1598.1	1578.1	1569.6	1564.0	1546.9	1529.7	1524.1	1512.7	1501.2	1492.7
22.5°	1535.5	1521.2	1501.2	1492.7	1489.8	1475.6	1461.4	1452.8	1444.3	1435.8	1427.2
25°	1455.7	1438.6	1421.5	1415.8	1410.2	1398.7	1387.3	1381.7	1373.0	1367.4	1361.6
27.5°	1370.3	1353.1	1338.9	1330.4	1324.6	1316.1	1310.4	1304.7	1299.0	1293.4	1290.5
30°	1279.1	1262.0	1250.6	1244.8	1239.2	1236.3	1227.8	1225.0	1222.1	1216.4	1219.2
32.5°	1187.9	1173.7	1162.3	1153.7	1153.7	1148.0	1145.2	1145.2	1142.3	1142.3	1142.3
35°	1088.3	1079.6	1071.1	1068.3	1065.4	1062.6	1059.8	1062.6	1059.8	1062.6	1065.4
37.5°	997.1	988.5	982.8	980.0	977.1	980.0	977.1	977.1	980.0	985.6	988.5
40°	903.1	897.3	891.7	894.5	891.7	891.7	891.7	900.2	903.1	905.9	908.7
42.5°	814.8	809.0	806.1	806.1	809.0	806.1	811.9	814.8	820.4	829.0	834.6
45°	729.2	726.5	726.5	729.2	726.5	732.1	732.1	737.8	746.4	752.1	757.7
47.5°	649.6	649.6	649.6	652.3	652.3	655.2	660.9	663.7	669.4	675.2	680.8
50°	575.4	578.3	581.1	581.1	581.1	586.8	592.5	595.4	598.3	601.0	609.7
52.5°	509.9	512.7	512.7	515.6	518.5	521.4	524.1	529.9	532.8	538.4	541.3
55°	447.2	447.2	453.0	455.8	455.8	455.8	461.5	461.5	467.2	470.1	475.7
57.5°	387.4	390.3	390.3	393.1	393.1	395.9	398.8	401.7	404.6	407.3	410.2
60°	330.4	330.4	330.4	333.3	336.2	339.0	336.2	341.8	341.8	347.5	350.4
62.5°	276.4	279.1	279.1	279.1	279.1	279.1	279.1	282.0	284.9	287.8	290.5
65°	225.1	225.1	225.1	222.2	225.1	222.2	225.1	227.9	227.9	230.7	233.6
67.5°	173.8	173.8	168.1	168.1	171.0	171.0	171.0	171.0	168.1	173.8	173.8
70°	125.3	122.4	119.7	116.8	116.8	113.9	113.9	111.1	111.1	111.1	111.1
72.5°	82.7	76.9	71.2	68.4	65.5	65.5	59.8	57.0	59.8	59.8	59.8
75°	42.8	37.0	34.1	31.4	28.5	28.5	25.6	25.6	25.6	25.6	25.6
77.5°	17.1	14.3	11.4	11.4	8.5	8.5	8.5	8.5	8.5	8.5	8.5
80°	5.8	5.8	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
82.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
85°	2.9	0.0	0.0	2.9	0.0	2.9	2.9	2.9	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: P584504

CATALOG NUMBER: HC835D010-HM82555940-81WWBB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8	1905.8
2.5°	1868.8	1868.8	1865.9	1868.8	1863.0	1865.9	1863.0	1863.0
5°	1826.0	1820.4	1820.4	1820.4	1817.5	1817.5	1814.6	1814.6
7.5°	1774.7	1771.8	1769.1	1766.2	1763.3	1760.5	1760.5	1760.5
10°	1723.4	1717.8	1717.8	1714.9	1709.2	1706.4	1706.4	1706.4
12.5°	1663.7	1660.8	1657.9	1657.9	1646.5	1649.4	1646.5	1646.5
15°	1606.6	1603.9	1603.9	1595.3	1589.6	1589.6	1589.6	1586.8
17.5°	1546.9	1544.0	1541.1	1535.5	1529.7	1529.7	1526.9	1529.7
20°	1484.2	1481.3	1475.6	1475.6	1472.8	1469.9	1464.2	1467.1
22.5°	1421.5	1415.8	1412.9	1412.9	1410.2	1410.2	1404.4	1404.4
25°	1356.0	1353.1	1350.3	1353.1	1347.4	1347.4	1341.8	1341.8
27.5°	1287.6	1284.7	1284.7	1284.7	1281.9	1284.7	1281.9	1281.9
30°	1219.2	1219.2	1216.4	1216.4	1219.2	1216.4	1219.2	1222.1
32.5°	1145.2	1145.2	1148.0	1148.0	1150.9	1150.9	1150.9	1150.9
35°	1068.3	1074.0	1074.0	1076.8	1079.6	1082.5	1082.5	1085.4
37.5°	997.1	999.9	1002.7	1005.6	1011.4	1011.4	1011.4	1011.4
40°	920.2	922.9	928.7	925.8	937.2	940.1	937.2	937.2
42.5°	840.4	846.0	848.9	854.7	857.4	863.2	866.0	866.0
45°	766.4	769.1	774.9	780.5	783.4	792.0	792.0	792.0
47.5°	689.3	695.1	698.0	703.6	706.5	715.0	717.8	715.0
50°	615.3	621.0	626.7	626.7	635.3	638.1	643.8	646.7
52.5°	544.1	547.0	552.6	555.5	561.1	566.9	569.8	572.6
55°	475.7	478.6	484.2	484.2	492.9	495.7	501.4	501.4
57.5°	413.1	415.9	421.6	418.7	424.5	430.2	430.2	427.3
60°	353.3	353.3	353.3	358.9	361.8	364.7	367.4	367.4
62.5°	290.5	296.3	299.1	299.1	302.0	304.8	304.8	302.0
65°	233.6	239.2	242.1	242.1	245.0	245.0	245.0	247.9
67.5°	176.6	176.6	176.6	179.5	176.6	176.6	176.6	176.6
70°	111.1	111.1	111.1	111.1	108.3	111.1	111.1	113.9
72.5°	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8
75°	25.6	25.6	25.6	28.5	25.6	25.6	25.6	25.6
77.5°	11.4	8.5	11.4	11.4	8.5	8.5	8.5	8.5
80°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
82.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
85°	0.0	2.9	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)