

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: P593715

Luminaire Tested: **HC835D010-HM82555950-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P593715
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-HM82555950-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4057.0 lumens
Efficiency: N/A
Efficacy: 120.4 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

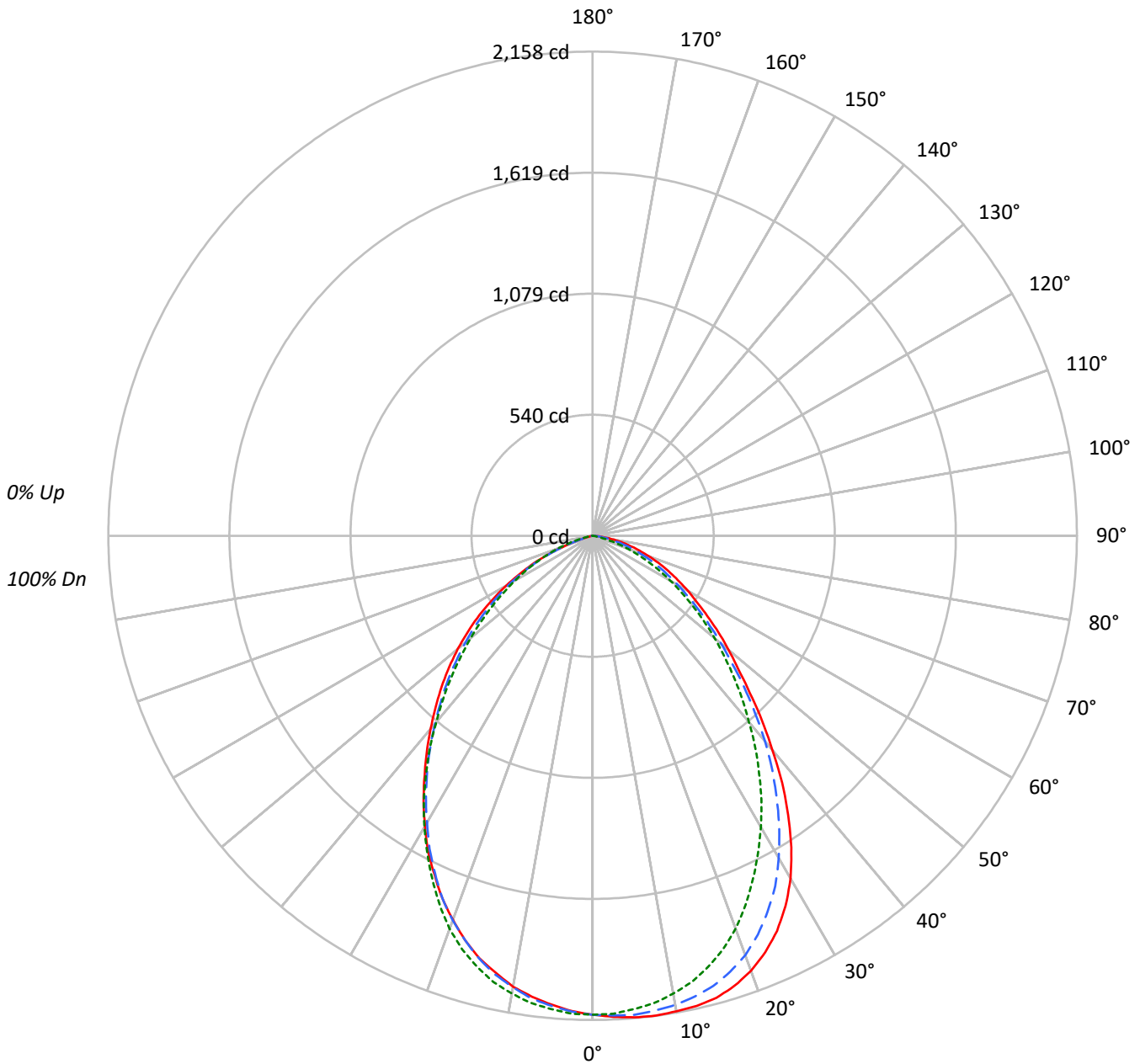
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	65823	65823	65823
5°	66694	65548	64929
10°	67374	64875	63895
15°	68056	63507	62233
20°	67711	61161	59763
25°	66129	57501	56728
30°	62817	53378	53175
35°	57185	48704	49137
40°	50132	43595	45201
45°	43252	38777	41512
50°	37875	34046	37596
55°	33558	29268	33101
60°	30232	24614	27420
65°	27238	19752	21007
70°	23892	14389	11567
75°	20373	7470	3050
80°	15680	2024	515
85°	10084	0	0



TEST NUMBER: P593715

CATALOG NUMBER: HC835D010-HM82555950-81RWWC

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.4	5.0
10°-20°	566.2	14.0
20°-30°	803.6	19.8
30°-40°	845.9	20.9
40°-50°	719.6	17.7
50°-60°	520.0	12.8
60°-70°	295.8	7.3
70°-80°	93.2	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°	1571.2	38.7
0°-40°	2417.1	59.6
0°-60°	3656.7	90.1
0°-90°	4057.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4057.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2135	2135	2135	2135	2135	
5°	2155	2143	2118	2103	2098	206
15°	2132	2078	1989	1952	1949	600
25°	1944	1847	1690	1662	1667	890
35°	1519	1431	1294	1285	1305	945
45°	992	955	889	912	952	771
55°	624	578	544	576	616	563
65°	373	322	271	268	288	370
75°	171	131	63	28	26	184
85°	28	17	0	0	0	37
90°	0	0	0	0	0	



TEST NUMBER: P593715

CATALOG NUMBER: HC835D010-HM82555950-81RWWC

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6
2.5°	2146.1	2148.9	2143.2	2143.2	2148.9	2143.2	2146.1	2146.1	2143.2	2143.2	2140.3
5°	2154.6	2151.7	2151.7	2151.7	2154.6	2148.9	2146.1	2148.9	2143.2	2143.2	2143.2
7.5°	2157.5	2157.5	2154.6	2151.7	2151.7	2151.7	2148.9	2146.1	2143.2	2137.5	2134.6
10°	2151.7	2151.7	2154.6	2148.9	2148.9	2143.2	2143.2	2137.5	2137.5	2131.8	2123.2
12.5°	2146.1	2143.2	2143.2	2137.5	2137.5	2131.8	2131.8	2123.2	2120.3	2111.8	2103.3
15°	2131.8	2129.0	2123.2	2120.3	2117.6	2114.7	2109.0	2106.1	2097.6	2086.2	2077.7
17.5°	2103.3	2100.5	2097.6	2091.9	2086.2	2083.3	2080.4	2071.9	2060.6	2051.9	2037.8
20°	2063.4	2060.6	2060.6	2051.9	2049.2	2040.6	2037.8	2026.3	2017.8	2000.7	1989.3
22.5°	2009.3	2012.0	2006.4	2000.7	1995.0	1986.4	1980.8	1969.4	1955.1	1938.0	1923.7
25°	1943.6	1946.5	1940.9	1935.1	1926.6	1920.9	1915.2	1898.1	1883.9	1863.8	1846.8
27.5°	1861.1	1861.1	1861.1	1855.3	1841.1	1838.2	1832.6	1815.4	1795.4	1778.4	1761.3
30°	1764.2	1761.3	1761.3	1752.8	1747.0	1735.7	1727.0	1712.9	1698.6	1678.6	1658.8
32.5°	1647.2	1650.1	1641.6	1635.9	1627.4	1627.4	1616.0	1604.6	1587.5	1567.5	1547.6
35°	1519.1	1521.9	1516.2	1513.3	1499.1	1496.2	1493.4	1479.2	1467.8	1453.5	1430.7
37.5°	1387.9	1385.1	1382.3	1382.3	1373.7	1368.0	1362.2	1353.7	1336.6	1325.2	1313.8
40°	1245.4	1245.4	1245.4	1242.6	1239.7	1234.1	1231.2	1225.4	1214.1	1202.7	1194.2
42.5°	1117.1	1117.1	1114.4	1111.5	1105.8	1108.6	1103.0	1097.2	1085.9	1077.2	1071.6
45°	991.8	991.8	991.8	994.7	988.9	980.4	980.4	974.7	968.9	963.3	954.7
47.5°	880.6	889.2	883.5	880.6	883.5	872.1	872.1	866.4	860.6	855.0	843.6
50°	789.5	789.5	789.5	783.7	780.9	780.9	772.4	766.6	763.8	758.1	746.7
52.5°	706.8	701.1	701.1	698.2	695.4	689.7	689.7	683.9	672.6	666.9	658.3
55°	624.2	624.2	621.3	618.4	615.7	612.8	609.9	601.4	595.6	587.1	578.5
57.5°	550.0	555.8	552.9	547.2	541.5	541.5	535.7	530.1	521.5	513.0	504.5
60°	490.2	487.3	487.3	484.5	478.8	476.0	473.1	464.6	456.0	447.5	438.9
62.5°	427.4	427.4	427.4	421.8	416.1	413.2	410.4	404.7	393.3	384.8	379.0
65°	373.3	370.5	367.7	364.8	361.9	356.3	353.4	347.7	339.2	330.6	322.0
67.5°	319.1	316.4	316.4	313.5	304.9	302.1	302.1	293.5	285.0	276.5	267.9
70°	265.0	265.0	265.0	259.4	256.5	253.6	250.7	245.1	236.6	228.0	219.5
72.5°	219.5	216.6	216.6	213.7	205.2	202.3	199.5	193.8	185.2	179.6	173.8
75°	171.0	171.0	168.2	165.3	162.4	159.6	156.7	151.1	142.4	133.9	131.1
77.5°	131.1	128.3	128.3	125.4	119.7	116.8	116.8	111.2	102.5	96.9	91.2
80°	88.3	91.2	88.3	85.5	82.7	79.8	76.9	74.2	68.4	62.7	57.0
82.5°	54.1	57.0	54.1	54.1	51.3	48.4	48.4	42.8	39.9	37.0	34.1
85°	28.5	28.5	28.5	28.5	25.6	25.6	25.6	22.8	20.0	17.1	17.1
87.5°	8.5	11.4	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



TEST NUMBER: P593715

CATALOG NUMBER: HC835D010-HM82555950-81RWWC

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6
2.5°	2143.2	2140.3	2137.5	2137.5	2137.5	2137.5	2137.5	2134.6	2131.8	2131.8	2131.8
5°	2137.5	2137.5	2137.5	2134.6	2131.8	2131.8	2126.1	2123.2	2120.3	2117.6	2114.7
7.5°	2131.8	2126.1	2123.2	2120.3	2117.6	2117.6	2111.8	2106.1	2106.1	2100.5	2094.7
10°	2114.7	2111.8	2106.1	2100.5	2097.6	2094.7	2089.1	2080.4	2077.7	2071.9	2066.2
12.5°	2094.7	2089.1	2083.3	2071.9	2069.1	2066.2	2054.8	2046.3	2040.6	2037.8	2023.5
15°	2069.1	2057.7	2049.2	2034.9	2032.0	2026.3	2017.8	2009.3	1997.8	1989.3	1983.6
17.5°	2023.5	2012.0	1997.8	1983.6	1977.9	1977.9	1963.6	1952.3	1938.0	1932.3	1920.9
20°	1969.4	1955.1	1943.6	1926.6	1918.0	1909.5	1901.0	1883.9	1872.5	1863.8	1849.6
22.5°	1906.6	1886.7	1872.5	1855.3	1841.1	1832.6	1818.3	1804.1	1789.8	1781.2	1769.8
25°	1826.8	1809.7	1786.9	1769.8	1761.3	1749.9	1732.8	1718.5	1704.3	1690.0	1684.4
27.5°	1738.5	1715.7	1695.8	1675.8	1667.3	1658.8	1638.7	1621.6	1610.2	1596.0	1590.3
30°	1641.6	1618.7	1596.0	1578.8	1570.3	1556.1	1544.7	1524.7	1510.4	1499.1	1484.8
32.5°	1530.4	1513.3	1493.4	1467.8	1462.0	1450.7	1433.5	1425.0	1407.9	1399.4	1387.9
35°	1410.8	1399.4	1379.4	1359.5	1350.9	1345.2	1331.0	1313.8	1302.5	1293.8	1288.2
37.5°	1296.7	1282.5	1262.6	1248.3	1242.6	1234.1	1216.9	1208.4	1197.0	1191.3	1179.9
40°	1174.2	1159.9	1145.6	1137.1	1128.6	1122.9	1111.5	1103.0	1091.5	1083.0	1080.1
42.5°	1054.5	1046.0	1034.6	1023.1	1020.3	1011.7	1006.1	997.5	988.9	986.1	977.6
45°	946.2	937.7	926.3	914.8	912.0	906.3	903.4	894.9	889.2	889.2	889.2
47.5°	837.9	829.4	818.0	812.2	815.1	803.7	803.7	800.9	795.1	795.1	798.0
50°	741.0	729.6	726.7	721.1	715.3	709.7	712.5	703.9	703.9	709.7	706.8
52.5°	649.8	638.4	635.5	629.8	627.0	627.0	624.2	624.2	621.3	624.2	624.2
55°	567.1	558.6	552.9	547.2	544.4	544.4	544.4	541.5	538.6	544.4	547.2
57.5°	493.1	490.2	484.5	476.0	473.1	470.2	467.3	467.3	467.3	467.3	470.2
60°	427.4	421.8	416.1	407.6	407.6	404.7	401.8	399.1	399.1	399.1	399.1
62.5°	370.5	361.9	353.4	347.7	344.9	342.0	339.2	333.4	333.4	333.4	333.4
65°	313.5	304.9	299.3	293.5	287.9	287.9	282.1	279.3	273.6	270.7	265.0
67.5°	259.4	253.6	248.0	239.4	236.6	233.7	228.0	225.1	216.6	213.7	210.8
70°	210.8	202.3	196.6	191.0	188.1	182.5	176.7	171.0	165.3	159.6	153.9
72.5°	165.3	156.7	151.1	145.3	139.7	139.7	131.1	125.4	116.8	111.2	102.5
75°	122.6	114.0	108.3	99.8	96.9	94.0	85.5	79.8	71.3	62.7	57.0
77.5°	82.7	76.9	71.3	62.7	57.0	57.0	48.4	42.8	37.0	28.5	25.6
80°	51.3	45.6	39.9	34.1	34.1	28.5	25.6	20.0	14.3	11.4	8.5
82.5°	28.5	25.6	22.8	17.1	17.1	14.3	11.4	8.5	5.8	2.9	2.9
85°	14.3	11.4	8.5	8.5	5.8	5.8	5.8	2.9	2.9	0.0	0.0
87.5°	5.8	2.9	2.9	2.9	2.9	2.9	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: P593715

CATALOG NUMBER: HC835D010-HM82555950-81RWWC

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6
2.5°	2129.0	2129.0	2126.1	2126.1	2126.1	2123.2	2126.1	2123.2	2123.2	2123.2	2126.1
5°	2117.6	2111.8	2111.8	2109.0	2109.0	2106.1	2109.0	2106.1	2103.3	2100.5	2103.3
7.5°	2094.7	2089.1	2086.2	2083.3	2083.3	2083.3	2080.4	2077.7	2080.4	2071.9	2077.7
10°	2063.4	2060.6	2054.8	2051.9	2049.2	2051.9	2049.2	2043.4	2043.4	2043.4	2040.6
12.5°	2023.5	2017.8	2014.9	2012.0	2006.4	2006.4	2009.3	2003.5	2003.5	1997.8	1997.8
15°	1975.0	1969.4	1963.6	1963.6	1957.9	1957.9	1955.1	1955.1	1952.3	1949.4	1949.4
17.5°	1915.2	1906.6	1901.0	1903.7	1901.0	1898.1	1898.1	1892.4	1889.5	1892.4	1892.4
20°	1844.0	1838.2	1832.6	1835.3	1829.7	1826.8	1829.7	1821.2	1824.0	1824.0	1824.0
22.5°	1764.2	1761.3	1752.8	1752.8	1747.0	1744.2	1747.0	1747.0	1749.9	1747.0	1747.0
25°	1675.8	1670.1	1664.4	1664.4	1661.5	1658.8	1661.5	1664.4	1661.5	1664.4	1664.4
27.5°	1581.7	1573.2	1573.2	1567.5	1567.5	1570.3	1567.5	1570.3	1573.2	1573.2	1578.8
30°	1479.2	1476.3	1473.4	1470.5	1470.5	1473.4	1473.4	1473.4	1476.3	1482.0	1482.0
32.5°	1382.3	1376.5	1370.9	1370.9	1376.5	1373.7	1376.5	1376.5	1382.3	1382.3	1387.9
35°	1276.8	1276.8	1271.1	1274.0	1274.0	1274.0	1274.0	1279.6	1285.3	1288.2	1293.8
37.5°	1179.9	1171.3	1174.2	1174.2	1177.0	1174.2	1182.8	1182.8	1188.4	1188.4	1194.2
40°	1074.5	1074.5	1077.2	1074.5	1077.2	1077.2	1083.0	1088.7	1091.5	1097.2	1100.1
42.5°	974.7	980.4	974.7	977.6	980.4	983.2	986.1	988.9	1000.3	1006.1	1014.6
45°	883.5	886.4	889.2	892.0	889.2	894.9	897.8	903.4	912.0	914.8	917.7
47.5°	795.1	798.0	800.9	803.7	803.7	809.4	812.2	818.0	823.6	826.5	829.4
50°	709.7	715.3	718.2	718.2	721.1	726.7	732.5	732.5	738.1	746.7	749.6
52.5°	632.7	632.7	638.4	641.3	644.0	644.0	652.7	655.5	658.3	664.1	669.8
55°	547.2	555.8	558.6	558.6	564.3	570.0	572.9	575.6	575.6	587.1	587.1
57.5°	473.1	476.0	481.6	481.6	481.6	490.2	490.2	495.9	498.7	501.6	507.4
60°	399.1	404.7	404.7	407.6	404.7	410.4	413.2	418.9	421.8	424.7	427.4
62.5°	330.6	330.6	333.4	333.4	333.4	333.4	339.2	339.2	344.9	347.7	350.5
65°	265.0	265.0	265.0	265.0	265.0	265.0	265.0	265.0	267.9	267.9	273.6
67.5°	205.2	202.3	196.6	199.5	196.6	196.6	193.8	193.8	196.6	196.6	202.3
70°	148.2	145.3	139.7	139.7	136.8	133.9	131.1	128.3	125.4	125.4	125.4
72.5°	96.9	91.2	82.7	79.8	79.8	74.2	68.4	65.5	65.5	65.5	65.5
75°	48.4	42.8	37.0	34.1	34.1	28.5	31.4	28.5	28.5	28.5	28.5
77.5°	20.0	14.3	11.4	11.4	11.4	8.5	8.5	8.5	8.5	8.5	8.5
80°	5.8	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
82.5°	2.9	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: P593715

CATALOG NUMBER: HC835D010-HM82555950-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6	2134.6
2.5°	2123.2	2123.2	2117.6	2120.3	2120.3	2120.3	2120.3	2120.3
5°	2097.6	2100.5	2097.6	2100.5	2100.5	2097.6	2097.6	2097.6
7.5°	2071.9	2074.8	2071.9	2074.8	2074.8	2074.8	2071.9	2071.9
10°	2040.6	2040.6	2040.6	2040.6	2040.6	2037.8	2040.6	2040.6
12.5°	1997.8	1997.8	1997.8	2000.7	2000.7	1997.8	1997.8	1995.0
15°	1952.3	1946.5	1949.4	1952.3	1949.4	1949.4	1949.4	1949.4
17.5°	1889.5	1892.4	1889.5	1889.5	1889.5	1889.5	1892.4	1889.5
20°	1824.0	1824.0	1826.8	1824.0	1824.0	1824.0	1824.0	1821.2
22.5°	1749.9	1747.0	1747.0	1749.9	1749.9	1747.0	1749.9	1749.9
25°	1667.3	1670.1	1667.3	1667.3	1670.1	1670.1	1670.1	1667.3
27.5°	1578.8	1581.7	1584.6	1581.7	1581.7	1581.7	1584.6	1587.5
30°	1487.7	1493.4	1487.7	1487.7	1493.4	1490.6	1493.4	1493.4
32.5°	1390.8	1399.4	1393.6	1399.4	1399.4	1402.1	1399.4	1402.1
35°	1293.8	1302.5	1302.5	1302.5	1305.3	1308.1	1308.1	1305.3
37.5°	1202.7	1205.5	1205.5	1211.3	1214.1	1216.9	1216.9	1214.1
40°	1108.6	1114.4	1117.1	1117.1	1117.1	1122.9	1128.6	1122.9
42.5°	1017.5	1020.3	1023.1	1023.1	1028.8	1031.7	1034.6	1034.6
45°	929.0	934.8	937.7	940.5	943.3	949.1	946.2	951.9
47.5°	837.9	846.4	849.3	852.1	857.9	860.6	863.5	866.4
50°	755.2	761.0	761.0	766.6	775.2	775.2	780.9	783.7
52.5°	672.6	675.4	678.3	681.2	686.8	692.6	692.6	698.2
55°	592.8	595.6	595.6	598.5	601.4	612.8	615.7	615.7
57.5°	510.1	510.1	515.9	518.7	521.5	527.2	527.2	527.2
60°	430.3	433.2	433.2	436.1	438.9	444.6	447.5	444.6
62.5°	350.5	353.4	353.4	356.3	361.9	364.8	361.9	361.9
65°	276.5	279.3	279.3	282.1	287.9	287.9	285.0	287.9
67.5°	202.3	202.3	202.3	202.3	202.3	202.3	202.3	202.3
70°	128.3	125.4	122.6	125.4	125.4	125.4	122.6	128.3
72.5°	62.7	65.5	65.5	65.5	65.5	65.5	65.5	62.7
75°	28.5	28.5	25.6	25.6	25.6	28.5	28.5	25.6
77.5°	8.5	8.5	8.5	8.5	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°	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



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













(END OF REPORT)