

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: P584548

Luminaire Tested: **HC840D010-HM82555835-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584548
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: HC840D010-HM82555835-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4560.1 lumens
Efficiency: N/A
Efficacy: 111.2 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

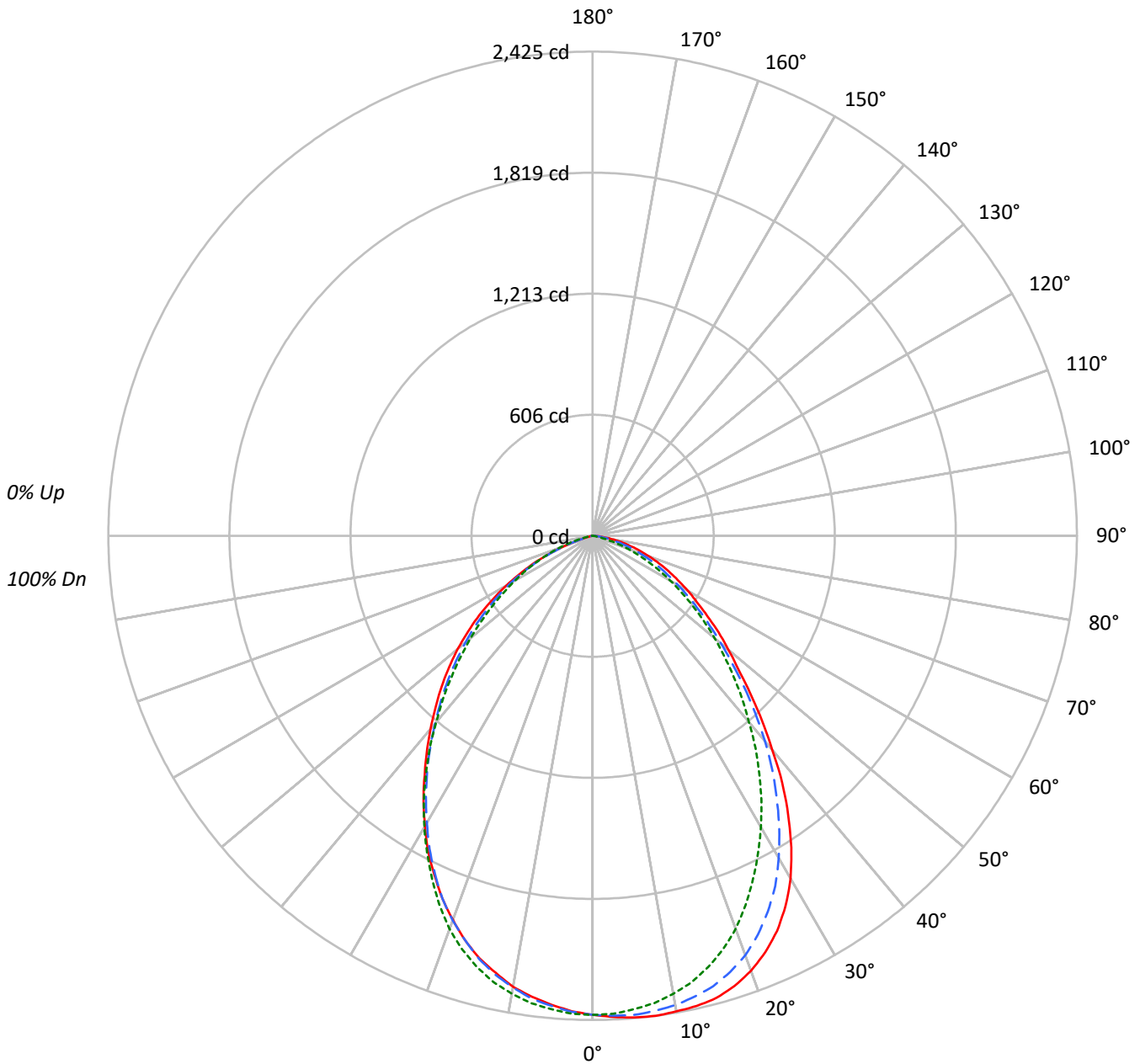
Input Watts (W): 41
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	73989	73989	73989
5°	74965	73674	72980
10°	75731	72919	71817
15°	76497	71382	69949
20°	76109	68748	67170
25°	74332	64632	63761
30°	70605	59997	59769
35°	64274	54746	55232
40°	56352	49001	50805
45°	48615	43587	46657
50°	42571	38268	42264
55°	37714	32897	37203
60°	33982	27660	30818
65°	30616	22203	23611
70°	26858	16166	12992
75°	22899	8388	3431
80°	17616	2291	568
85°	11322	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	226.4	5.0
10°-20°	636.4	14.0
20°-30°	903.3	19.8
30°-40°	950.8	20.9
40°-50°	808.8	17.7
50°-60°	584.5	12.8
60°-70°	332.4	7.3
70°-80°	104.7	2.3
80°-90°	12.7	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°	1766.0	38.7
0°-40°	2716.8	59.6
0°-60°	4110.2	90.1
0°-90°	4560.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4560.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2399	2399	2399	2399	2399	
5°	2422	2409	2380	2364	2358	231
15°	2396	2335	2236	2194	2191	675
25°	2185	2076	1900	1868	1874	1001
35°	1707	1608	1454	1445	1467	1062
45°	1115	1073	1000	1025	1070	867
55°	702	650	612	647	692	633
65°	420	362	304	301	324	416
75°	192	147	70	32	29	207
85°	32	19	0	0	0	41
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°	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4
2.5°	2412.1	2415.3	2408.9	2408.9	2415.3	2408.9	2412.1	2412.1	2408.9	2408.9	2405.7
5°	2421.8	2418.6	2418.6	2418.6	2421.8	2415.3	2412.1	2415.3	2408.9	2408.9	2408.9
7.5°	2425.0	2425.0	2421.8	2418.6	2418.6	2418.6	2415.3	2412.1	2408.9	2402.5	2399.4
10°	2418.6	2418.6	2421.8	2415.3	2415.3	2408.9	2408.9	2402.5	2402.5	2396.2	2386.5
12.5°	2412.1	2408.9	2408.9	2402.5	2402.5	2396.2	2396.2	2386.5	2383.3	2373.7	2364.1
15°	2396.2	2393.0	2386.5	2383.3	2380.1	2376.9	2370.5	2367.3	2357.7	2344.9	2335.3
17.5°	2364.1	2360.8	2357.7	2351.3	2344.9	2341.7	2338.5	2328.8	2316.1	2306.5	2290.4
20°	2319.3	2316.1	2316.1	2306.5	2303.2	2293.6	2290.4	2277.7	2268.0	2248.7	2236.0
22.5°	2258.4	2261.6	2255.2	2248.7	2242.3	2232.8	2226.4	2213.5	2197.6	2178.3	2162.2
25°	2184.7	2187.9	2181.5	2175.1	2165.4	2159.1	2152.7	2133.4	2117.5	2095.0	2075.8
27.5°	2091.8	2091.8	2091.8	2085.4	2069.4	2066.2	2059.8	2040.6	2018.1	1999.0	1979.7
30°	1982.9	1979.7	1979.7	1970.0	1963.6	1950.9	1941.2	1925.2	1909.2	1886.7	1864.4
32.5°	1851.5	1854.7	1845.1	1838.8	1829.1	1829.1	1816.3	1803.6	1784.3	1761.9	1739.4
35°	1707.4	1710.6	1704.2	1701.0	1685.0	1681.8	1678.6	1662.5	1649.7	1633.8	1608.0
37.5°	1560.1	1556.9	1553.7	1553.7	1544.0	1537.6	1531.2	1521.7	1502.4	1489.5	1476.8
40°	1399.9	1399.9	1399.9	1396.7	1393.5	1387.1	1383.9	1377.4	1364.7	1351.8	1342.2
42.5°	1255.7	1255.7	1252.5	1249.4	1243.0	1246.2	1239.7	1233.3	1220.5	1210.8	1204.5
45°	1114.8	1114.8	1114.8	1118.0	1111.6	1101.9	1101.9	1095.5	1089.2	1082.8	1073.1
47.5°	989.8	999.5	993.1	989.8	993.1	980.2	980.2	973.8	967.5	961.0	948.2
50°	887.4	887.4	887.4	881.0	877.7	877.7	868.1	861.7	858.5	852.2	839.3
52.5°	794.4	788.0	788.0	784.8	781.6	775.2	775.2	768.9	756.0	749.6	739.9
55°	701.5	701.5	698.3	695.1	692.0	688.8	685.6	675.9	669.5	659.9	650.3
57.5°	618.2	624.6	621.4	615.0	608.7	608.7	602.3	595.8	586.2	576.6	567.0
60°	551.0	547.8	547.8	544.5	538.1	535.0	531.8	522.2	512.5	502.9	493.4
62.5°	480.5	480.5	480.5	474.1	467.7	464.5	461.2	454.9	442.1	432.4	426.0
65°	419.6	416.5	413.3	410.1	406.9	400.4	397.2	390.8	381.2	371.6	362.0
67.5°	358.8	355.6	355.6	352.4	342.7	339.5	339.5	330.0	320.3	310.7	301.1
70°	297.9	297.9	297.9	291.6	288.3	285.1	281.9	275.5	265.8	256.3	246.7
72.5°	246.7	243.5	243.5	240.3	230.6	227.4	224.2	217.9	208.2	201.8	195.4
75°	192.2	192.2	189.0	185.8	182.5	179.3	176.2	169.8	160.2	150.5	147.3
77.5°	147.3	144.1	144.1	140.9	134.6	131.4	131.4	125.0	115.3	108.9	102.5
80°	99.2	102.5	99.2	96.2	92.9	89.7	86.5	83.3	76.9	70.4	64.0
82.5°	60.8	64.0	60.8	60.8	57.7	54.5	54.5	48.1	44.9	41.6	38.4
85°	32.0	32.0	32.0	32.0	28.8	28.8	28.8	25.6	22.4	19.3	19.3
87.5°	9.6	12.9	9.6	9.6	9.6	9.6	9.6	9.6	6.4	6.4	6.4
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°	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4
2.5°	2408.9	2405.7	2402.5	2402.5	2402.5	2402.5	2402.5	2399.4	2396.2	2396.2	2396.2
5°	2402.5	2402.5	2402.5	2399.4	2396.2	2396.2	2389.8	2386.5	2383.3	2380.1	2376.9
7.5°	2396.2	2389.8	2386.5	2383.3	2380.1	2380.1	2373.7	2367.3	2367.3	2360.8	2354.5
10°	2376.9	2373.7	2367.3	2360.8	2357.7	2354.5	2348.1	2338.5	2335.3	2328.8	2322.4
12.5°	2354.5	2348.1	2341.7	2328.8	2325.6	2322.4	2309.7	2300.0	2293.6	2290.4	2274.4
15°	2325.6	2312.9	2303.2	2287.2	2284.0	2277.7	2268.0	2258.4	2245.5	2236.0	2229.6
17.5°	2274.4	2261.6	2245.5	2229.6	2223.2	2223.2	2207.1	2194.4	2178.3	2171.9	2159.1
20°	2213.5	2197.6	2184.7	2165.4	2155.9	2146.3	2136.6	2117.5	2104.6	2095.0	2079.0
22.5°	2143.1	2120.7	2104.6	2085.4	2069.4	2059.8	2043.7	2027.8	2011.7	2002.2	1989.3
25°	2053.3	2034.2	2008.5	1989.3	1979.7	1966.8	1947.7	1931.6	1915.7	1899.6	1893.2
27.5°	1954.1	1928.4	1906.0	1883.7	1874.0	1864.4	1842.0	1822.7	1809.9	1793.9	1787.5
30°	1845.1	1819.5	1793.9	1774.6	1765.0	1749.1	1736.2	1713.8	1697.8	1685.0	1669.0
32.5°	1720.3	1701.0	1678.6	1649.7	1643.4	1630.5	1611.3	1601.7	1582.5	1572.8	1560.1
35°	1585.7	1572.8	1550.5	1528.0	1518.4	1512.0	1495.9	1476.8	1463.9	1454.3	1447.9
37.5°	1457.5	1441.6	1419.1	1403.1	1396.7	1387.1	1367.9	1358.3	1345.4	1339.0	1326.3
40°	1319.8	1303.8	1287.8	1278.2	1268.5	1262.1	1249.4	1239.7	1226.9	1217.3	1214.0
42.5°	1185.2	1175.6	1162.9	1150.0	1146.8	1137.2	1130.7	1121.2	1111.6	1108.4	1098.7
45°	1063.5	1053.9	1041.1	1028.3	1025.1	1018.6	1015.4	1005.9	999.5	999.5	999.5
47.5°	941.8	932.1	919.4	913.0	916.2	903.3	903.3	900.1	893.7	893.7	896.9
50°	832.9	820.0	816.8	810.5	804.1	797.7	800.9	791.2	791.2	797.7	794.4
52.5°	730.4	717.6	714.4	707.9	704.7	704.7	701.5	701.5	698.3	701.5	701.5
55°	637.5	627.8	621.4	615.0	611.9	611.9	611.9	608.7	605.5	611.9	615.0
57.5°	554.2	551.0	544.5	535.0	531.8	528.6	525.4	525.4	525.4	525.4	528.6
60°	480.5	474.1	467.7	458.0	458.0	454.9	451.7	448.5	448.5	448.5	448.5
62.5°	416.5	406.9	397.2	390.8	387.6	384.4	381.2	374.8	374.8	374.8	374.8
65°	352.4	342.7	336.4	330.0	323.6	323.6	317.1	313.9	307.5	304.3	297.9
67.5°	291.6	285.1	278.7	269.1	265.8	262.6	256.3	253.1	243.5	240.3	237.0
70°	237.0	227.4	221.0	214.7	211.5	205.0	198.6	192.2	185.8	179.3	173.0
72.5°	185.8	176.2	169.8	163.4	157.0	157.0	147.3	140.9	131.4	125.0	115.3
75°	137.8	128.2	121.7	112.1	108.9	105.7	96.2	89.7	80.1	70.4	64.0
77.5°	92.9	86.5	80.1	70.4	64.0	64.0	54.5	48.1	41.6	32.0	28.8
80°	57.7	51.3	44.9	38.4	38.4	32.0	28.8	22.4	16.1	12.9	9.6
82.5°	32.0	28.8	25.6	19.3	19.3	16.1	12.9	9.6	6.4	3.2	3.2
85°	16.1	12.9	9.6	9.6	6.4	6.4	6.4	3.2	3.2	0.0	0.0
87.5°	6.4	3.2	3.2	3.2	3.2	3.2	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°	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4
2.5°	2393.0	2393.0	2389.8	2389.8	2389.8	2386.5	2389.8	2386.5	2386.5	2386.5	2389.8
5°	2380.1	2373.7	2373.7	2370.5	2370.5	2367.3	2370.5	2367.3	2364.1	2360.8	2364.1
7.5°	2354.5	2348.1	2344.9	2341.7	2341.7	2341.7	2338.5	2335.3	2338.5	2328.8	2335.3
10°	2319.3	2316.1	2309.7	2306.5	2303.2	2306.5	2303.2	2296.8	2296.8	2296.8	2293.6
12.5°	2274.4	2268.0	2264.8	2261.6	2255.2	2255.2	2258.4	2252.0	2252.0	2245.5	2245.5
15°	2219.9	2213.5	2207.1	2207.1	2200.8	2200.8	2197.6	2197.6	2194.4	2191.1	2191.1
17.5°	2152.7	2143.1	2136.6	2139.9	2136.6	2133.4	2133.4	2127.0	2123.8	2127.0	2127.0
20°	2072.6	2066.2	2059.8	2063.0	2056.6	2053.3	2056.6	2046.9	2050.1	2050.1	2050.1
22.5°	1982.9	1979.7	1970.0	1970.0	1963.6	1960.5	1963.6	1963.6	1966.8	1963.6	1963.6
25°	1883.7	1877.2	1870.8	1870.8	1867.6	1864.4	1867.6	1870.8	1867.6	1870.8	1870.8
27.5°	1777.9	1768.2	1768.2	1761.9	1761.9	1765.0	1761.9	1765.0	1768.2	1768.2	1774.6
30°	1662.5	1659.3	1656.1	1652.9	1652.9	1656.1	1656.1	1656.1	1659.3	1665.8	1665.8
32.5°	1553.7	1547.2	1540.8	1540.8	1547.2	1544.0	1547.2	1547.2	1553.7	1553.7	1560.1
35°	1435.1	1435.1	1428.7	1431.9	1431.9	1431.9	1431.9	1438.4	1444.8	1447.9	1454.3
37.5°	1326.3	1316.6	1319.8	1319.8	1323.0	1319.8	1329.3	1329.3	1335.8	1335.8	1342.2
40°	1207.7	1207.7	1210.8	1207.7	1210.8	1210.8	1217.3	1223.7	1226.9	1233.3	1236.5
42.5°	1095.5	1101.9	1095.5	1098.7	1101.9	1105.2	1108.4	1111.6	1124.4	1130.7	1140.4
45°	993.1	996.3	999.5	1002.7	999.5	1005.9	1009.1	1015.4	1025.1	1028.3	1031.5
47.5°	893.7	896.9	900.1	903.3	903.3	909.8	913.0	919.4	925.8	929.0	932.1
50°	797.7	804.1	807.3	807.3	810.5	816.8	823.2	823.2	829.7	839.3	842.5
52.5°	711.1	711.1	717.6	720.8	724.0	724.0	733.6	736.7	739.9	746.4	752.8
55°	615.0	624.6	627.8	627.8	634.3	640.7	643.9	647.1	647.1	659.9	659.9
57.5°	531.8	535.0	541.3	541.3	541.3	551.0	551.0	557.4	560.6	563.8	570.2
60°	448.5	454.9	454.9	458.0	454.9	461.2	464.5	470.9	474.1	477.3	480.5
62.5°	371.6	371.6	374.8	374.8	374.8	374.8	381.2	381.2	387.6	390.8	394.0
65°	297.9	297.9	297.9	297.9	297.9	297.9	297.9	297.9	301.1	301.1	307.5
67.5°	230.6	227.4	221.0	224.2	221.0	221.0	217.9	217.9	221.0	221.0	227.4
70°	166.6	163.4	157.0	157.0	153.7	150.5	147.3	144.1	140.9	140.9	140.9
72.5°	108.9	102.5	92.9	89.7	89.7	83.3	76.9	73.7	73.7	73.7	73.7
75°	54.5	48.1	41.6	38.4	38.4	32.0	35.2	32.0	32.0	32.0	32.0
77.5°	22.4	16.1	12.9	12.9	12.9	9.6	9.6	9.6	9.6	9.6	9.6
80°	6.4	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
82.5°	3.2	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: P584548

CATALOG NUMBER: HC840D010-HM82555835-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4	2399.4
2.5°	2386.5	2386.5	2380.1	2383.3	2383.3	2383.3	2383.3	2383.3
5°	2357.7	2360.8	2357.7	2360.8	2360.8	2357.7	2357.7	2357.7
7.5°	2328.8	2332.0	2328.8	2332.0	2332.0	2332.0	2328.8	2328.8
10°	2293.6	2293.6	2293.6	2293.6	2293.6	2290.4	2293.6	2293.6
12.5°	2245.5	2245.5	2245.5	2248.7	2248.7	2245.5	2245.5	2242.3
15°	2194.4	2187.9	2191.1	2194.4	2191.1	2191.1	2191.1	2191.1
17.5°	2123.8	2127.0	2123.8	2123.8	2123.8	2123.8	2127.0	2123.8
20°	2050.1	2050.1	2053.3	2050.1	2050.1	2050.1	2050.1	2046.9
22.5°	1966.8	1963.6	1963.6	1966.8	1966.8	1963.6	1966.8	1966.8
25°	1874.0	1877.2	1874.0	1874.0	1877.2	1877.2	1877.2	1874.0
27.5°	1774.6	1777.9	1781.1	1777.9	1777.9	1777.9	1781.1	1784.3
30°	1672.2	1678.6	1672.2	1672.2	1678.6	1675.4	1678.6	1678.6
32.5°	1563.3	1572.8	1566.5	1572.8	1572.8	1576.0	1572.8	1576.0
35°	1454.3	1463.9	1463.9	1463.9	1467.2	1470.4	1470.4	1467.2
37.5°	1351.8	1355.1	1355.1	1361.5	1364.7	1367.9	1367.9	1364.7
40°	1246.2	1252.5	1255.7	1255.7	1255.7	1262.1	1268.5	1262.1
42.5°	1143.6	1146.8	1150.0	1150.0	1156.4	1159.7	1162.9	1162.9
45°	1044.3	1050.8	1053.9	1057.1	1060.3	1066.7	1063.5	1069.9
47.5°	941.8	951.4	954.6	957.8	964.3	967.5	970.7	973.8
50°	848.9	855.3	855.3	861.7	871.3	871.3	877.7	881.0
52.5°	756.0	759.2	762.4	765.6	772.1	778.4	778.4	784.8
55°	666.3	669.5	669.5	672.7	675.9	688.8	692.0	692.0
57.5°	573.5	573.5	579.8	583.0	586.2	592.6	592.6	592.6
60°	483.7	486.9	486.9	490.2	493.4	499.7	502.9	499.7
62.5°	394.0	397.2	397.2	400.4	406.9	410.1	406.9	406.9
65°	310.7	313.9	313.9	317.1	323.6	323.6	320.3	323.6
67.5°	227.4	227.4	227.4	227.4	227.4	227.4	227.4	227.4
70°	144.1	140.9	137.8	140.9	140.9	140.9	137.8	144.1
72.5°	70.4	73.7	73.7	73.7	73.7	73.7	73.7	70.4
75°	32.0	32.0	28.8	28.8	28.8	32.0	32.0	28.8
77.5°	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
80°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
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)