

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: P585143

Luminaire Tested: **HC860D010-HM86080930-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P585143
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: HC860D010-HM86080930-81RWWC
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: 4626.1 lumens
Efficiency: N/A
Efficacy: 82.6 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

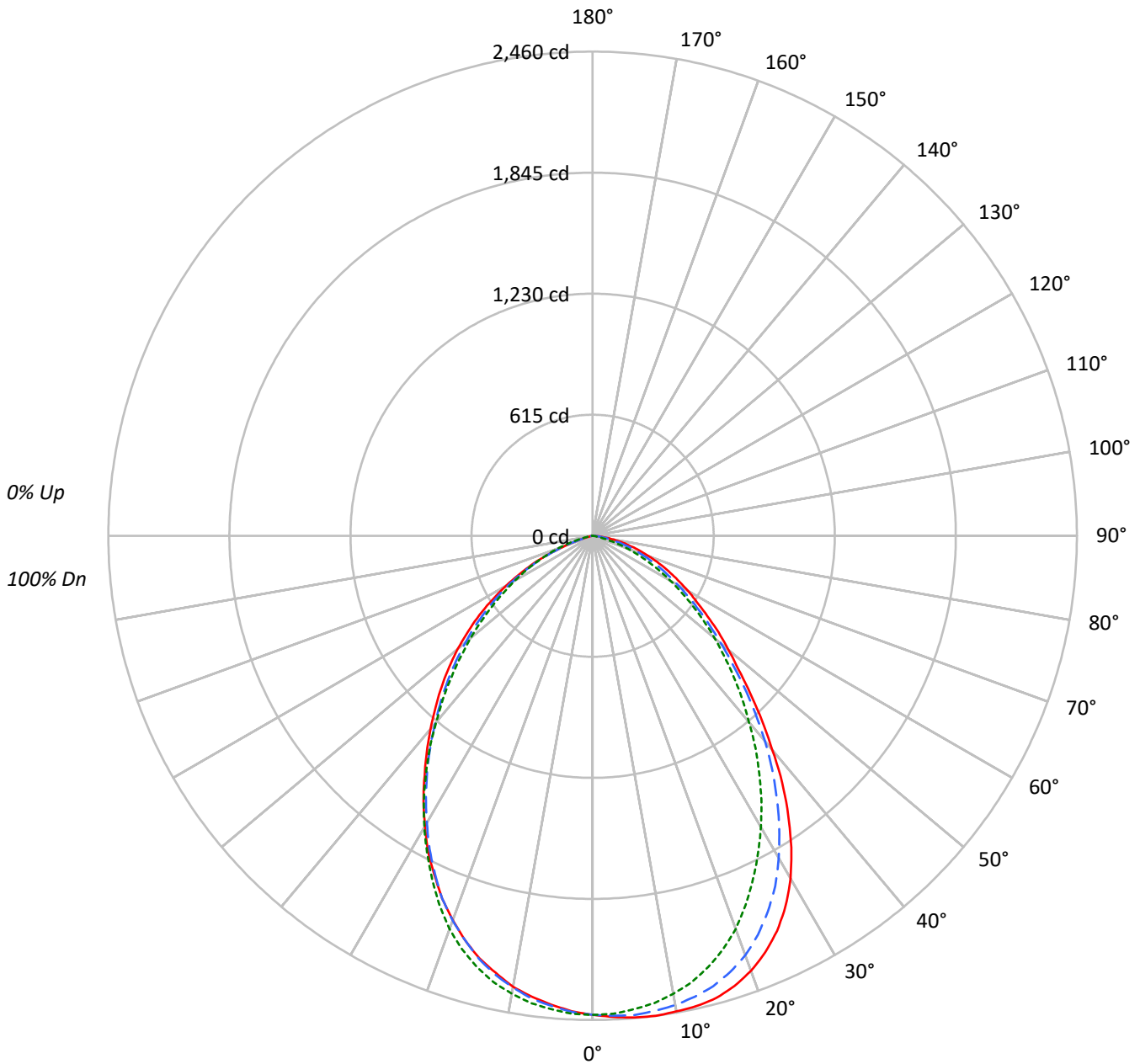
Input Watts (W): 56
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P585143

CATALOG NUMBER: HC860D010-HM86080930-81RWWC

Luminous Intensity Polar Plot





TEST NUMBER: P585143

CATALOG NUMBER: HC860D010-HM86080930-81RWWC

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	84	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°	75059	75059	75059
5°	76051	74742	74036
10°	76827	73978	72860
15°	77601	72417	70961
20°	77208	69746	68144
25°	75411	65568	64683
30°	71626	60863	60635
35°	65207	55540	56026
40°	57169	49710	51541
45°	49318	44220	47338
50°	43185	38820	42873
55°	38257	33375	37741
60°	34469	28061	31262
65°	31061	22532	23954
70°	27246	16409	13190
75°	23233	8519	3491
80°	17882	2309	568
85°	11499	0	0



TEST NUMBER: P585143

CATALOG NUMBER: HC860D010-HM86080930-81RWWC

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	229.7	5.0
10°-20°	645.6	14.0
20°-30°	916.3	19.8
30°-40°	964.6	20.9
40°-50°	820.6	17.7
50°-60°	593.0	12.8
60°-70°	337.3	7.3
70°-80°	106.3	2.3
80°-90°	12.9	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°	1791.6	38.7
0°-40°	2756.2	59.6
0°-60°	4169.7	90.1
0°-90°	4626.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4626.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2434	2434	2434	2434	2434	
5°	2457	2444	2415	2398	2392	234
15°	2431	2369	2268	2226	2223	685
25°	2216	2106	1927	1895	1901	1015
35°	1732	1631	1475	1466	1488	1078
45°	1131	1089	1014	1040	1086	879
55°	712	660	621	656	702	642
65°	426	367	309	306	328	422
75°	195	150	72	32	29	210
85°	32	20	0	0	0	42
90°	0	0	0	0	0	



TEST NUMBER: P585143

CATALOG NUMBER: HC860D010-HM86080930-81RWWC

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1
2.5°	2447.1	2450.3	2443.8	2443.8	2450.3	2443.8	2447.1	2447.1	2443.8	2443.8	2440.6
5°	2456.9	2453.6	2453.6	2453.6	2456.9	2450.3	2447.1	2450.3	2443.8	2443.8	2443.8
7.5°	2460.1	2460.1	2456.9	2453.6	2453.6	2453.6	2450.3	2447.1	2443.8	2437.4	2434.1
10°	2453.6	2453.6	2456.9	2450.3	2450.3	2443.8	2443.8	2437.4	2437.4	2430.8	2421.1
12.5°	2447.1	2443.8	2443.8	2437.4	2437.4	2430.8	2430.8	2421.1	2417.9	2408.1	2398.4
15°	2430.8	2427.6	2421.1	2417.9	2414.6	2411.3	2404.8	2401.6	2391.8	2378.9	2369.1
17.5°	2398.4	2395.0	2391.8	2385.3	2378.9	2375.5	2372.3	2362.6	2349.6	2339.8	2323.6
20°	2352.8	2349.6	2349.6	2339.8	2336.6	2326.9	2323.6	2310.6	2300.8	2281.3	2268.4
22.5°	2291.1	2294.3	2287.9	2281.3	2274.9	2265.0	2258.6	2245.6	2229.4	2209.8	2193.7
25°	2216.4	2219.6	2213.1	2206.6	2196.9	2190.3	2183.8	2164.4	2148.1	2125.4	2105.9
27.5°	2122.1	2122.1	2122.1	2115.6	2099.3	2096.1	2089.6	2070.1	2047.4	2027.9	2008.4
30°	2011.6	2008.4	2008.4	1998.6	1992.2	1979.1	1969.3	1953.2	1936.9	1914.1	1891.3
32.5°	1878.4	1881.7	1871.9	1865.4	1855.6	1855.6	1842.7	1829.6	1810.1	1787.4	1764.6
35°	1732.2	1735.4	1728.8	1725.6	1709.3	1706.1	1702.9	1686.6	1673.6	1657.4	1631.4
37.5°	1582.7	1579.4	1576.1	1576.1	1566.4	1559.9	1553.4	1543.6	1524.1	1511.2	1498.2
40°	1420.2	1420.2	1420.2	1417.0	1413.6	1407.1	1403.9	1397.5	1384.4	1371.4	1361.7
42.5°	1273.9	1273.9	1270.7	1267.5	1260.9	1264.1	1257.7	1251.2	1238.2	1228.4	1221.9
45°	1130.9	1130.9	1130.9	1134.1	1127.7	1117.9	1117.9	1111.4	1105.0	1098.4	1088.7
47.5°	1004.2	1014.0	1007.4	1004.2	1007.4	994.5	994.5	987.9	981.4	975.0	961.9
50°	900.2	900.2	900.2	893.7	890.4	890.4	880.7	874.2	870.9	864.5	851.4
52.5°	806.0	799.4	799.4	796.2	793.0	786.5	786.5	779.9	766.9	760.4	750.7
55°	711.6	711.6	708.4	705.2	702.0	698.7	695.5	685.7	679.2	669.4	659.7
57.5°	627.2	633.7	630.4	624.0	617.4	617.4	611.0	604.5	594.7	585.0	575.2
60°	558.9	555.7	555.7	552.5	546.0	542.7	539.4	529.8	520.0	510.3	500.5
62.5°	487.4	487.4	487.4	481.0	474.5	471.2	467.9	461.5	448.4	438.8	432.2
65°	425.7	422.5	419.3	415.9	412.7	406.2	403.0	396.4	386.7	376.9	367.2
67.5°	364.0	360.8	360.8	357.4	347.8	344.5	344.5	334.7	325.0	315.2	305.5
70°	302.2	302.2	302.2	295.7	292.5	289.3	285.9	279.5	269.8	260.0	250.3
72.5°	250.3	246.9	246.9	243.7	234.0	230.7	227.5	221.0	211.2	204.7	198.3
75°	195.0	195.0	191.7	188.5	185.2	182.0	178.8	172.2	162.5	152.7	149.5
77.5°	149.5	146.3	146.3	143.0	136.4	133.2	133.2	126.8	117.0	110.5	104.0
80°	100.7	104.0	100.7	97.5	94.2	91.0	87.8	84.5	78.0	71.5	65.1
82.5°	61.7	65.1	61.7	61.7	58.5	55.2	55.2	48.8	45.4	42.2	39.0
85°	32.5	32.5	32.5	32.5	29.3	29.3	29.3	26.0	22.7	19.5	19.5
87.5°	9.8	13.0	9.8	9.8	9.8	9.8	9.8	9.8	6.5	6.5	6.5
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: P585143

CATALOG NUMBER: HC860D010-HM86080930-81RWWC

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1
2.5°	2443.8	2440.6	2437.4	2437.4	2437.4	2437.4	2437.4	2434.1	2430.8	2430.8	2430.8
5°	2437.4	2437.4	2437.4	2434.1	2430.8	2430.8	2424.3	2421.1	2417.9	2414.6	2411.3
7.5°	2430.8	2424.3	2421.1	2417.9	2414.6	2414.6	2408.1	2401.6	2401.6	2395.0	2388.6
10°	2411.3	2408.1	2401.6	2395.0	2391.8	2388.6	2382.1	2372.3	2369.1	2362.6	2356.1
12.5°	2388.6	2382.1	2375.5	2362.6	2359.4	2356.1	2343.1	2333.3	2326.9	2323.6	2307.4
15°	2359.4	2346.4	2336.6	2320.3	2317.1	2310.6	2300.8	2291.1	2278.1	2268.4	2261.8
17.5°	2307.4	2294.3	2278.1	2261.8	2255.4	2255.4	2239.1	2226.1	2209.8	2203.3	2190.3
20°	2245.6	2229.4	2216.4	2196.9	2187.1	2177.4	2167.6	2148.1	2135.1	2125.4	2109.1
22.5°	2174.2	2151.3	2135.1	2115.6	2099.3	2089.6	2073.4	2057.1	2040.8	2031.1	2018.1
25°	2083.2	2063.7	2037.6	2018.1	2008.4	1995.4	1975.9	1959.6	1943.4	1927.1	1920.6
27.5°	1982.3	1956.4	1933.7	1910.8	1901.1	1891.3	1868.6	1849.1	1836.1	1819.8	1813.4
30°	1871.9	1845.9	1819.8	1800.3	1790.7	1774.4	1761.4	1738.6	1722.4	1709.3	1693.2
32.5°	1745.1	1725.6	1702.9	1673.6	1667.1	1654.1	1634.6	1624.9	1605.4	1595.6	1582.7
35°	1608.6	1595.6	1572.9	1550.2	1540.4	1533.9	1517.6	1498.2	1485.1	1475.4	1468.9
37.5°	1478.7	1462.4	1439.7	1423.4	1417.0	1407.1	1387.7	1377.9	1364.9	1358.4	1345.4
40°	1338.9	1322.7	1306.5	1296.7	1287.0	1280.4	1267.5	1257.7	1244.6	1234.9	1231.7
42.5°	1202.4	1192.6	1179.7	1166.7	1163.4	1153.6	1147.2	1137.4	1127.7	1124.4	1114.6
45°	1078.9	1069.2	1056.2	1043.1	1039.9	1033.4	1030.2	1020.4	1014.0	1014.0	1014.0
47.5°	955.5	945.7	932.6	926.2	929.4	916.5	916.5	913.1	906.7	906.7	909.9
50°	845.0	831.9	828.7	822.1	815.7	809.2	812.5	802.7	802.7	809.2	806.0
52.5°	740.9	727.9	724.7	718.2	715.0	715.0	711.6	711.6	708.4	711.6	711.6
55°	646.7	636.9	630.4	624.0	620.8	620.8	620.8	617.4	614.2	620.8	624.0
57.5°	562.2	558.9	552.5	542.7	539.4	536.2	533.0	533.0	533.0	533.0	536.2
60°	487.4	481.0	474.5	464.7	464.7	461.5	458.2	455.0	455.0	455.0	455.0
62.5°	422.5	412.7	403.0	396.4	393.2	390.0	386.7	380.3	380.3	380.3	380.3
65°	357.4	347.8	341.2	334.7	328.3	328.3	321.7	318.5	312.0	308.8	302.2
67.5°	295.7	289.3	282.7	273.0	269.8	266.4	260.0	256.7	246.9	243.7	240.5
70°	240.5	230.7	224.2	217.8	214.5	208.0	201.5	195.0	188.5	182.0	175.4
72.5°	188.5	178.8	172.2	165.7	159.3	159.3	149.5	143.0	133.2	126.8	117.0
75°	139.8	130.0	123.5	113.7	110.5	107.3	97.5	91.0	81.2	71.5	65.1
77.5°	94.2	87.8	81.2	71.5	65.1	65.1	55.2	48.8	42.2	32.5	29.3
80°	58.5	52.0	45.4	39.0	39.0	32.5	29.3	22.7	16.3	13.0	9.8
82.5°	32.5	29.3	26.0	19.5	19.5	16.3	13.0	9.8	6.5	3.2	3.2
85°	16.3	13.0	9.8	9.8	6.5	6.5	6.5	3.2	3.2	0.0	0.0
87.5°	6.5	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



TEST NUMBER: P585143

CATALOG NUMBER: HC860D010-HM86080930-81RWWC

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1
2.5°	2427.6	2427.6	2424.3	2424.3	2424.3	2421.1	2424.3	2421.1	2421.1	2421.1	2424.3
5°	2414.6	2408.1	2408.1	2404.8	2404.8	2401.6	2404.8	2401.6	2398.4	2395.0	2398.4
7.5°	2388.6	2382.1	2378.9	2375.5	2375.5	2375.5	2372.3	2369.1	2372.3	2362.6	2369.1
10°	2352.8	2349.6	2343.1	2339.8	2336.6	2339.8	2336.6	2330.1	2330.1	2330.1	2326.9
12.5°	2307.4	2300.8	2297.6	2294.3	2287.9	2287.9	2291.1	2284.7	2284.7	2278.1	2278.1
15°	2252.1	2245.6	2239.1	2239.1	2232.6	2232.6	2229.4	2229.4	2226.1	2222.8	2222.8
17.5°	2183.8	2174.2	2167.6	2170.8	2167.6	2164.4	2164.4	2157.9	2154.6	2157.9	2157.9
20°	2102.6	2096.1	2089.6	2092.8	2086.4	2083.2	2086.4	2076.6	2079.8	2079.8	2079.8
22.5°	2011.6	2008.4	1998.6	1998.6	1992.2	1988.9	1992.2	1992.2	1995.4	1992.2	1992.2
25°	1910.8	1904.4	1897.9	1897.9	1894.6	1891.3	1894.6	1897.9	1894.6	1897.9	1897.9
27.5°	1803.7	1793.9	1793.9	1787.4	1787.4	1790.7	1787.4	1790.7	1793.9	1793.9	1800.3
30°	1686.6	1683.4	1680.2	1676.9	1676.9	1680.2	1680.2	1680.2	1683.4	1689.8	1689.8
32.5°	1576.1	1569.7	1563.2	1563.2	1569.7	1566.4	1569.7	1569.7	1576.1	1576.1	1582.7
35°	1455.9	1455.9	1449.4	1452.7	1452.7	1452.7	1452.7	1459.2	1465.6	1468.9	1475.4
37.5°	1345.4	1335.6	1338.9	1338.9	1342.2	1338.9	1348.7	1348.7	1355.1	1355.1	1361.7
40°	1225.1	1225.1	1228.4	1225.1	1228.4	1228.4	1234.9	1241.4	1244.6	1251.2	1254.4
42.5°	1111.4	1117.9	1111.4	1114.6	1117.9	1121.2	1124.4	1127.7	1140.7	1147.2	1157.0
45°	1007.4	1010.7	1014.0	1017.2	1014.0	1020.4	1023.6	1030.2	1039.9	1043.1	1046.5
47.5°	906.7	909.9	913.1	916.5	916.5	923.0	926.2	932.6	939.2	942.4	945.7
50°	809.2	815.7	818.9	818.9	822.1	828.7	835.2	835.2	841.8	851.4	854.7
52.5°	721.5	721.5	727.9	731.3	734.5	734.5	744.2	747.4	750.7	757.2	763.7
55°	624.0	633.7	636.9	636.9	643.5	649.9	653.2	656.4	656.4	669.4	669.4
57.5°	539.4	542.7	549.2	549.2	549.2	558.9	558.9	565.5	568.7	572.0	578.4
60°	455.0	461.5	461.5	464.7	461.5	467.9	471.2	477.7	481.0	484.2	487.4
62.5°	376.9	376.9	380.3	380.3	380.3	380.3	386.7	386.7	393.2	396.4	399.8
65°	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	305.5	305.5	312.0
67.5°	234.0	230.7	224.2	227.5	224.2	224.2	221.0	221.0	224.2	224.2	230.7
70°	169.0	165.7	159.3	159.3	155.9	152.7	149.5	146.3	143.0	143.0	143.0
72.5°	110.5	104.0	94.2	91.0	91.0	84.5	78.0	74.7	74.7	74.7	74.7
75°	55.2	48.8	42.2	39.0	39.0	32.5	35.8	32.5	32.5	32.5	32.5
77.5°	22.7	16.3	13.0	13.0	13.0	9.8	9.8	9.8	9.8	9.8	9.8
80°	6.5	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: P585143

CATALOG NUMBER: HC860D010-HM86080930-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1	2434.1
2.5°	2421.1	2421.1	2414.6	2417.9	2417.9	2417.9	2417.9	2417.9
5°	2391.8	2395.0	2391.8	2395.0	2395.0	2391.8	2391.8	2391.8
7.5°	2362.6	2365.9	2362.6	2365.9	2365.9	2365.9	2362.6	2362.6
10°	2326.9	2326.9	2326.9	2326.9	2326.9	2323.6	2326.9	2326.9
12.5°	2278.1	2278.1	2278.1	2281.3	2281.3	2278.1	2278.1	2274.9
15°	2226.1	2219.6	2222.8	2226.1	2222.8	2222.8	2222.8	2222.8
17.5°	2154.6	2157.9	2154.6	2154.6	2154.6	2154.6	2157.9	2154.6
20°	2079.8	2079.8	2083.2	2079.8	2079.8	2079.8	2079.8	2076.6
22.5°	1995.4	1992.2	1992.2	1995.4	1995.4	1992.2	1995.4	1995.4
25°	1901.1	1904.4	1901.1	1901.1	1904.4	1904.4	1904.4	1901.1
27.5°	1800.3	1803.7	1806.9	1803.7	1803.7	1803.7	1806.9	1810.1
30°	1696.4	1702.9	1696.4	1696.4	1702.9	1699.7	1702.9	1702.9
32.5°	1585.9	1595.6	1589.2	1595.6	1595.6	1598.8	1595.6	1598.8
35°	1475.4	1485.1	1485.1	1485.1	1488.3	1491.7	1491.7	1488.3
37.5°	1371.4	1374.6	1374.6	1381.2	1384.4	1387.7	1387.7	1384.4
40°	1264.1	1270.7	1273.9	1273.9	1273.9	1280.4	1287.0	1280.4
42.5°	1160.2	1163.4	1166.7	1166.7	1173.1	1176.5	1179.7	1179.7
45°	1059.4	1066.0	1069.2	1072.4	1075.7	1082.2	1078.9	1085.5
47.5°	955.5	965.2	968.4	971.7	978.2	981.4	984.7	987.9
50°	861.2	867.7	867.7	874.2	884.0	884.0	890.4	893.7
52.5°	766.9	770.2	773.5	776.7	783.2	789.7	789.7	796.2
55°	676.0	679.2	679.2	682.5	685.7	698.7	702.0	702.0
57.5°	581.7	581.7	588.2	591.5	594.7	601.3	601.3	601.3
60°	490.8	494.0	494.0	497.2	500.5	506.9	510.3	506.9
62.5°	399.8	403.0	403.0	406.2	412.7	415.9	412.7	412.7
65°	315.2	318.5	318.5	321.7	328.3	328.3	325.0	328.3
67.5°	230.7	230.7	230.7	230.7	230.7	230.7	230.7	230.7
70°	146.3	143.0	139.8	143.0	143.0	143.0	139.8	146.3
72.5°	71.5	74.7	74.7	74.7	74.7	74.7	74.7	71.5
75°	32.5	32.5	29.3	29.3	29.3	32.5	32.5	29.3
77.5°	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
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)