

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: P585304

Luminaire Tested: **HC880D010-HM86080935-81WWW**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P585304
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-16)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC880D010-HM86080935-81WWW
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6000.7 lumens
Efficiency: N/A
Efficacy: 85.7 lumens/watt
Spacing Criteria (0/90/45): 1.09 / 1.04 / 1.13
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

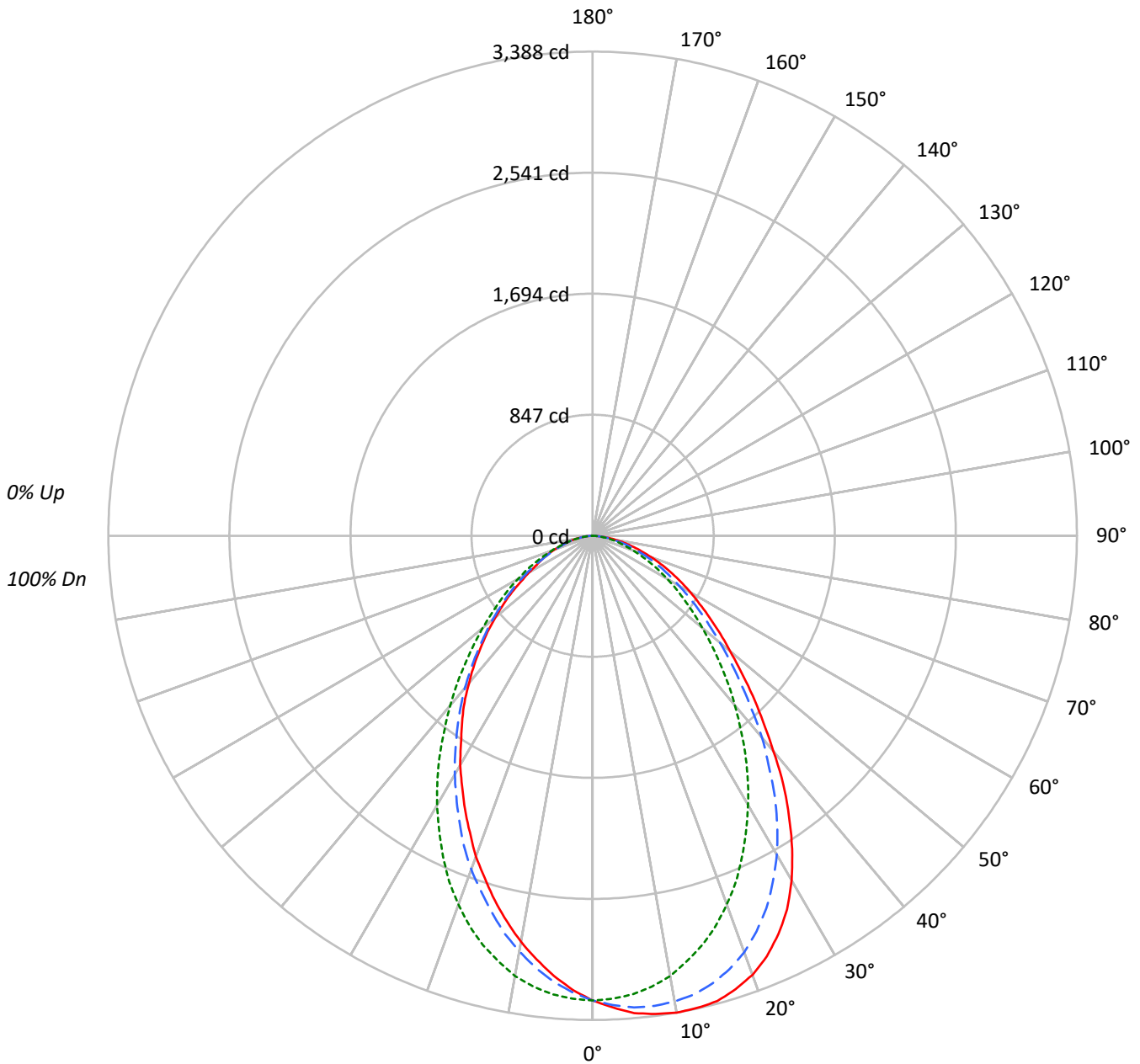
Input Watts (W): 70
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P585304

CATALOG NUMBER: HC880D010-HM86080935-81WWW

Luminous Intensity Polar Plot





TEST NUMBER: P585304

CATALOG NUMBER: HC880D010-HM86080935-81WWW

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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	93	91	89	87								
2	102	95	89	84	99	93	88	83	90	85	81	86	83	79	83	80	78	76								
3	94	85	78	72	92	83	77	71	81	75	70	78	73	69	75	71	68	66								
4	87	76	69	63	85	75	68	62	73	67	62	71	65	61	68	64	60	58								
5	81	69	61	55	79	68	61	55	66	60	54	64	59	54	63	57	53	51								
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46								
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	41								
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38								
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34								
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	32								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	100261	100261	100261
5°	103789	99691	95732
10°	106094	97941	90345
15°	107603	94649	84366
20°	107280	90049	78324
25°	104624	84210	71900
30°	99122	77445	65976
35°	90180	70082	59956
40°	79208	62337	54166
45°	69073	54834	48288
50°	60110	48045	42542
55°	53606	42219	36999
60°	48703	37004	31558
65°	43779	32192	28646
70°	38976	27445	25858
75°	34170	23137	22065
80°	28981	18806	19587
85°	21830	14046	15603



TEST NUMBER: P585304

CATALOG NUMBER: HC880D010-HM86080935-81WWW

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	304.5	5.1
10°-20°	839.1	14.0
20°-30°	1164.8	19.4
30°-40°	1204.3	20.1
40°-50°	1008.4	16.8
50°-60°	732.0	12.2
60°-70°	461.9	7.7
70°-80°	228.8	3.8
80°-90°	56.9	0.9
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°	2308.5	38.5
0°-40°	3512.7	58.5
0°-60°	5253.1	87.5
0°-90°	6000.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6000.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3251	3251	3251	3251	3251	
5°	3353	3313	3221	3132	3093	321
15°	3371	3243	2965	2726	2643	949
25°	3075	2876	2475	2206	2113	1409
35°	2396	2219	1862	1650	1593	1492
45°	1584	1469	1257	1134	1107	1225
55°	997	909	785	719	688	900
65°	600	525	441	388	393	598
75°	287	238	194	185	185	308
85°	62	48	40	44	44	75
90°	0	0	0	0	0	



TEST NUMBER: P585304

CATALOG NUMBER: HC880D010-HM86080935-81WWW

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4
2.5°	3304.5	3304.5	3308.9	3304.5	3304.5	3304.5	3300.1	3300.1	3295.6	3295.6	3286.8
5°	3353.0	3344.2	3353.0	3344.2	3344.2	3344.2	3339.8	3330.9	3326.5	3317.7	3313.3
7.5°	3375.0	3370.6	3370.6	3366.2	3366.2	3361.8	3357.4	3353.0	3335.3	3330.9	3317.7
10°	3388.3	3383.9	3383.9	3379.4	3370.6	3370.6	3361.8	3357.4	3335.3	3326.5	3308.9
12.5°	3383.9	3383.9	3383.9	3379.4	3366.2	3361.8	3353.0	3339.8	3322.1	3304.5	3286.8
15°	3370.6	3370.6	3361.8	3357.4	3344.2	3335.3	3330.9	3308.9	3291.2	3269.2	3242.6
17.5°	3326.5	3326.5	3322.1	3313.3	3300.1	3291.2	3282.4	3260.4	3242.6	3207.3	3180.9
20°	3269.2	3264.8	3260.4	3247.0	3233.8	3229.4	3216.2	3185.3	3163.2	3136.8	3101.5
22.5°	3185.3	3180.9	3176.5	3167.6	3145.6	3136.8	3127.9	3105.9	3066.2	3039.7	2995.6
25°	3075.0	3075.0	3066.2	3053.0	3030.9	3022.1	3008.9	2986.8	2951.5	2911.7	2876.4
27.5°	2947.1	2942.7	2929.5	2920.7	2902.9	2889.7	2867.6	2841.2	2805.9	2775.0	2730.9
30°	2783.8	2783.8	2775.0	2761.8	2739.7	2730.9	2713.3	2682.4	2647.1	2607.4	2576.4
32.5°	2598.6	2598.6	2585.4	2576.4	2563.2	2541.1	2536.7	2501.5	2470.6	2439.7	2404.4
35°	2395.6	2400.0	2391.2	2373.6	2351.5	2351.5	2342.7	2311.8	2276.5	2245.5	2219.1
37.5°	2192.6	2179.4	2175.0	2166.2	2152.9	2135.3	2126.5	2113.2	2082.4	2060.3	2020.6
40°	1967.7	1972.1	1963.3	1954.5	1950.0	1936.8	1932.4	1910.2	1888.3	1861.7	1844.1
42.5°	1764.7	1764.7	1764.7	1755.9	1747.1	1733.8	1729.4	1716.2	1689.7	1672.1	1645.6
45°	1583.9	1570.6	1570.6	1566.2	1561.8	1553.0	1539.8	1530.8	1513.2	1500.0	1469.1
47.5°	1407.4	1411.8	1407.4	1402.9	1389.7	1385.3	1380.9	1363.2	1345.6	1332.4	1310.3
50°	1253.0	1261.8	1253.0	1253.0	1244.2	1239.8	1230.9	1217.7	1204.5	1182.3	1160.3
52.5°	1125.0	1125.0	1120.6	1116.2	1102.9	1094.1	1089.7	1085.3	1063.2	1045.6	1027.9
55°	997.1	1001.5	1001.5	988.3	983.8	975.0	970.6	957.4	948.6	922.1	908.9
57.5°	886.8	882.4	886.8	878.0	869.2	860.2	855.8	847.0	833.8	816.1	798.5
60°	789.7	780.9	780.9	776.4	767.6	763.2	754.4	741.2	727.9	710.3	697.1
62.5°	692.6	688.2	683.8	679.4	670.6	666.2	661.8	648.5	635.3	622.1	608.8
65°	600.0	600.0	595.6	586.8	582.4	578.0	573.6	564.7	547.1	538.3	524.9
67.5°	516.1	511.7	511.7	502.9	494.1	489.7	489.7	480.8	467.6	454.4	445.6
70°	432.3	436.7	432.3	427.9	419.1	419.1	410.3	405.9	388.2	383.8	370.6
72.5°	357.4	357.4	352.9	352.9	344.1	339.7	339.7	330.9	322.1	313.2	304.4
75°	286.8	286.8	286.8	282.4	278.0	269.1	269.1	264.7	255.9	247.1	238.3
77.5°	225.0	220.6	220.6	216.2	211.8	207.4	207.4	203.0	194.2	189.8	180.8
80°	163.2	158.9	158.9	158.9	150.1	154.5	150.1	145.5	141.1	136.7	132.3
82.5°	105.9	110.3	110.3	105.9	101.4	101.4	101.4	97.0	97.0	92.6	88.2
85°	61.7	61.7	61.7	61.7	57.3	57.3	57.3	52.9	52.9	52.9	48.5
87.5°	26.5	26.5	26.5	26.5	26.5	26.5	22.1	22.1	22.1	22.1	22.1
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: P585304

CATALOG NUMBER: HC880D010-HM86080935-81WWW

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4
2.5°	3286.8	3278.0	3273.6	3269.2	3269.2	3264.8	3260.4	3251.4	3251.4	3242.6	3238.2
5°	3304.5	3291.2	3282.4	3273.6	3269.2	3260.4	3251.4	3238.2	3233.8	3220.6	3207.3
7.5°	3308.9	3286.8	3278.0	3260.4	3251.4	3242.6	3225.0	3211.7	3194.1	3180.9	3163.2
10°	3291.2	3273.6	3251.4	3229.4	3225.0	3211.7	3185.3	3167.6	3145.6	3127.9	3101.5
12.5°	3264.8	3238.2	3216.2	3189.7	3176.5	3163.2	3136.8	3110.3	3079.4	3048.6	3022.1
15°	3220.6	3189.7	3158.8	3127.9	3110.3	3097.1	3066.2	3035.3	3004.5	2964.8	2938.3
17.5°	3154.4	3119.1	3088.3	3048.6	3030.9	3017.7	2978.0	2942.7	2902.9	2863.2	2836.8
20°	3070.6	3026.5	2991.2	2947.1	2933.9	2911.7	2872.0	2832.3	2788.2	2744.1	2713.3
22.5°	2960.3	2916.1	2876.4	2832.3	2810.3	2788.2	2748.5	2700.0	2655.9	2620.6	2589.8
25°	2832.3	2792.6	2744.1	2704.4	2678.0	2651.5	2607.4	2567.6	2527.9	2475.0	2444.1
27.5°	2691.2	2642.7	2607.4	2554.4	2527.9	2510.3	2461.8	2408.8	2373.6	2325.0	2289.8
30°	2532.3	2488.2	2448.5	2395.6	2369.1	2351.5	2307.4	2258.9	2223.5	2175.0	2139.7
32.5°	2364.7	2316.2	2267.7	2232.3	2201.4	2183.8	2135.3	2104.4	2060.3	2020.6	1980.9
35°	2183.8	2135.3	2100.0	2051.5	2033.8	2016.2	1976.5	1936.8	1897.0	1861.7	1830.9
37.5°	1989.7	1954.5	1914.8	1879.5	1866.1	1848.5	1800.0	1764.7	1733.8	1698.5	1672.1
40°	1800.0	1769.1	1742.6	1707.4	1685.3	1672.1	1636.8	1605.9	1570.6	1548.6	1522.0
42.5°	1628.0	1592.7	1566.2	1539.8	1517.6	1504.4	1473.5	1451.5	1425.0	1402.9	1372.1
45°	1447.0	1429.4	1398.5	1376.5	1363.2	1345.6	1323.6	1297.1	1275.0	1257.4	1235.3
47.5°	1288.3	1270.6	1248.6	1222.1	1213.3	1200.1	1177.9	1160.3	1142.6	1125.0	1102.9
50°	1142.6	1120.6	1102.9	1085.3	1076.5	1063.2	1041.2	1032.4	1019.1	1001.5	988.3
52.5°	1010.3	992.7	975.0	953.0	948.6	939.7	926.5	908.9	895.6	886.8	878.0
55°	891.2	873.6	860.2	842.6	838.2	829.4	811.7	802.9	794.1	785.3	776.4
57.5°	785.3	767.6	750.0	741.2	732.3	723.5	719.1	705.9	697.1	692.6	683.8
60°	688.2	670.6	657.4	644.1	639.7	635.3	626.5	617.7	608.8	600.0	595.6
62.5°	595.6	578.0	569.2	560.3	551.5	551.5	542.7	533.9	524.9	520.5	511.7
65°	511.7	502.9	489.7	476.4	472.0	472.0	458.8	454.4	450.0	441.2	432.3
67.5°	432.3	423.5	410.3	405.9	401.5	397.0	392.6	383.8	375.0	370.6	361.8
70°	361.8	352.9	344.1	339.7	335.3	330.9	322.1	317.7	308.8	304.4	300.0
72.5°	291.2	286.8	278.0	273.6	269.1	264.7	260.3	255.9	247.1	242.7	238.3
75°	233.9	229.4	220.6	216.2	211.8	211.8	207.4	198.6	194.2	194.2	189.8
77.5°	176.4	172.0	167.6	163.2	158.9	158.9	154.5	150.1	145.5	145.5	141.1
80°	127.9	123.5	119.1	119.1	119.1	114.7	110.3	110.3	105.9	105.9	101.4
82.5°	83.8	83.8	79.4	79.4	79.4	75.0	75.0	70.6	70.6	70.6	70.6
85°	48.5	48.5	48.5	44.1	44.1	44.1	44.1	44.1	44.1	39.7	44.1
87.5°	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	17.6	17.6	17.6
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: P585304

CATALOG NUMBER: HC880D010-HM86080935-81WWW

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4
2.5°	3233.8	3229.4	3220.6	3220.6	3211.7	3211.7	3207.3	3202.9	3198.5	3194.1	3189.7
5°	3202.9	3185.3	3176.5	3172.1	3163.2	3158.8	3145.6	3136.8	3132.4	3123.5	3114.7
7.5°	3145.6	3127.9	3110.3	3105.9	3101.5	3083.8	3070.6	3057.4	3048.6	3039.7	3030.9
10°	3079.4	3061.8	3039.7	3030.9	3022.1	3000.0	2982.4	2969.2	2951.5	2933.9	2929.5
12.5°	3000.0	2973.6	2947.1	2938.3	2925.1	2902.9	2885.3	2863.2	2850.0	2827.9	2823.5
15°	2907.3	2876.4	2854.4	2832.3	2823.5	2801.5	2770.6	2753.0	2726.5	2717.7	2695.6
17.5°	2797.1	2766.2	2735.3	2726.5	2713.3	2682.4	2651.5	2629.5	2603.0	2589.8	2576.4
20°	2682.4	2642.7	2611.8	2603.0	2585.4	2558.8	2527.9	2505.9	2483.8	2457.4	2444.1
22.5°	2550.0	2505.9	2479.4	2457.4	2452.9	2422.1	2386.8	2369.1	2351.5	2329.4	2311.8
25°	2404.4	2364.7	2333.9	2316.2	2307.4	2280.9	2254.5	2232.3	2206.0	2192.6	2170.6
27.5°	2254.5	2227.9	2188.2	2170.6	2157.3	2135.3	2104.4	2091.2	2064.7	2047.1	2033.8
30°	2108.8	2069.1	2047.1	2025.0	2011.8	1989.7	1963.3	1950.0	1928.0	1910.2	1897.0
32.5°	1950.0	1923.6	1892.7	1883.9	1866.1	1844.1	1826.4	1804.4	1786.8	1769.1	1764.7
35°	1804.4	1769.1	1738.2	1729.4	1716.2	1694.1	1685.3	1672.1	1650.0	1645.6	1628.0
37.5°	1645.6	1628.0	1592.7	1579.5	1574.9	1557.4	1539.8	1530.8	1517.6	1504.4	1500.0
40°	1495.6	1473.5	1455.9	1442.6	1433.8	1420.6	1402.9	1398.5	1389.7	1372.1	1367.7
42.5°	1354.4	1332.4	1314.7	1310.3	1297.1	1283.9	1275.0	1261.8	1257.4	1253.0	1244.2
45°	1217.7	1204.5	1186.7	1182.3	1177.9	1160.3	1151.4	1142.6	1133.8	1129.4	1120.6
47.5°	1094.1	1080.9	1067.6	1063.2	1054.4	1050.0	1036.8	1032.4	1019.1	1014.7	1010.3
50°	975.0	966.2	957.4	953.0	944.1	939.7	930.9	922.1	913.3	908.9	904.5
52.5°	869.2	860.2	851.4	847.0	842.6	833.8	825.0	816.1	811.7	807.3	802.9
55°	767.6	758.8	754.4	750.0	745.6	741.2	727.9	723.5	719.1	714.7	705.9
57.5°	675.0	666.2	657.4	657.4	653.0	648.5	639.7	630.9	630.9	622.1	613.3
60°	591.2	582.4	573.6	569.2	564.7	555.9	551.5	547.1	542.7	538.3	529.5
62.5°	502.9	498.5	489.7	489.7	480.8	476.4	472.0	467.6	463.2	454.4	450.0
65°	427.9	423.5	414.7	410.3	410.3	405.9	397.0	392.6	388.2	388.2	383.8
67.5°	357.4	352.9	344.1	339.7	339.7	335.3	330.9	330.9	326.5	322.1	326.5
70°	295.6	286.8	286.8	282.4	282.4	278.0	273.6	273.6	273.6	278.0	278.0
72.5°	233.9	229.4	225.0	225.0	225.0	225.0	220.6	220.6	225.0	229.4	229.4
75°	185.2	180.8	180.8	180.8	176.4	176.4	180.8	180.8	185.2	185.2	185.2
77.5°	136.7	136.7	136.7	136.7	136.7	136.7	141.1	141.1	145.5	145.5	145.5
80°	101.4	101.4	101.4	101.4	101.4	105.9	105.9	105.9	105.9	105.9	110.3
82.5°	70.6	70.6	70.6	70.6	70.6	70.6	70.6	75.0	75.0	75.0	75.0
85°	39.7	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1
87.5°	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6
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: P585304

CATALOG NUMBER: HC880D010-HM86080935-81WWW

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4	3251.4
2.5°	3185.3	3185.3	3185.3	3189.7	3180.9	3180.9	3180.9	3180.9
5°	3110.3	3105.9	3101.5	3105.9	3097.1	3097.1	3092.7	3092.7
7.5°	3017.7	3013.3	3008.9	3008.9	3000.0	3000.0	2995.6	2991.2
10°	2916.1	2907.3	2911.7	2902.9	2898.5	2894.1	2889.7	2885.3
12.5°	2805.9	2797.1	2792.6	2783.8	2775.0	2770.6	2775.0	2766.2
15°	2686.8	2673.6	2669.2	2660.3	2651.5	2647.1	2647.1	2642.7
17.5°	2554.4	2545.6	2541.1	2532.3	2527.9	2519.1	2514.7	2510.3
20°	2430.9	2408.8	2413.2	2404.4	2400.0	2382.4	2382.4	2386.8
22.5°	2294.2	2280.9	2272.1	2263.3	2258.9	2250.1	2250.1	2245.5
25°	2157.3	2144.1	2139.7	2130.9	2126.5	2117.6	2113.2	2113.2
27.5°	2025.0	2007.4	2007.4	1998.6	1989.7	1985.3	1980.9	1976.5
30°	1883.9	1870.7	1866.1	1866.1	1861.7	1861.7	1848.5	1852.9
32.5°	1751.5	1742.6	1738.2	1729.4	1729.4	1725.0	1725.0	1711.8
35°	1619.2	1605.9	1610.3	1601.5	1597.1	1592.7	1597.1	1592.7
37.5°	1491.2	1482.3	1482.3	1473.5	1473.5	1469.1	1464.7	1473.5
40°	1363.2	1358.8	1354.4	1350.0	1354.4	1350.0	1341.2	1345.6
42.5°	1235.3	1235.3	1230.9	1230.9	1226.5	1226.5	1226.5	1226.5
45°	1120.6	1116.2	1116.2	1111.7	1111.7	1111.7	1111.7	1107.3
47.5°	1005.9	1001.5	1001.5	1001.5	997.1	997.1	992.7	997.1
50°	895.6	895.6	891.2	891.2	895.6	891.2	886.8	886.8
52.5°	794.1	794.1	789.7	789.7	785.3	780.9	785.3	785.3
55°	701.5	697.1	692.6	692.6	688.2	683.8	683.8	688.2
57.5°	613.3	608.8	604.4	604.4	595.6	591.2	591.2	591.2
60°	529.5	520.5	520.5	516.1	516.1	511.7	511.7	511.7
62.5°	450.0	445.6	445.6	445.6	445.6	441.2	441.2	441.2
65°	383.8	383.8	383.8	388.2	388.2	392.6	392.6	392.6
67.5°	330.9	335.3	335.3	335.3	339.7	339.7	339.7	335.3
70°	282.4	282.4	282.4	286.8	286.8	286.8	286.8	286.8
72.5°	233.9	233.9	233.9	233.9	233.9	233.9	233.9	233.9
75°	185.2	189.8	189.8	189.8	185.2	189.8	189.8	185.2
77.5°	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5
80°	110.3	110.3	110.3	110.3	110.3	110.3	110.3	110.3
82.5°	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
85°	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1
87.5°	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6
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)