

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: P585305

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P585305
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-18)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC880D010-HM86080935-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6247.8 lumens
Efficiency: N/A
Efficacy: 89.3 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.09 / 1.18
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

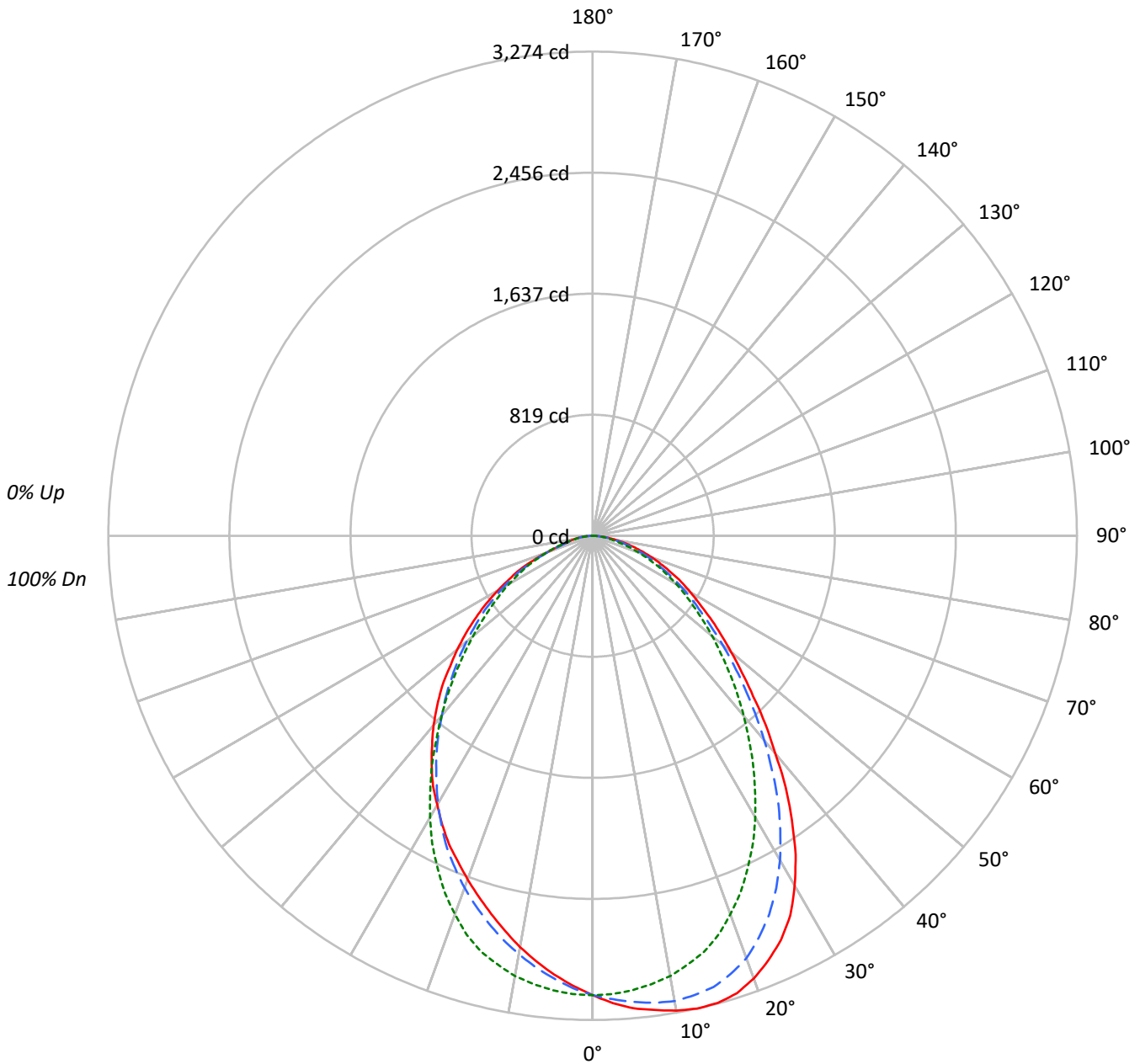
Input Watts (W): 70
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P585305

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	92	91	89	87																			
2	102	94	88	83	99	93	87	82	89	85	81	86	82	79	83	80	77	75																			
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	71	67	65																			
4	87	76	68	62	84	75	67	61	72	66	61	70	64	60	68	63	59	57																			
5	80	69	60	54	78	67	60	54	65	59	54	64	58	53	62	57	52	50																			
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45																			
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40																			
8	65	52	45	39	64	52	44	39	51	44	39	49	43	39	48	43	38	37																			
9	61	48	41	36	60	48	41	36	47	40	35	46	40	35	45	39	35	33																			
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	95793	95793	95793
5°	99298	95475	92194
10°	102102	94644	88425
15°	104385	92973	84519
20°	104546	89343	81090
25°	102542	84376	78218
30°	97256	78246	74788
35°	88366	71260	71426
40°	77267	63943	67317
45°	66966	56958	62732
50°	58637	50592	57155
55°	52192	44837	51713
60°	47075	40278	45447
65°	42502	35410	39605
70°	38192	29834	29437
75°	33646	23662	22089
80°	28217	19587	21150
85°	21865	17160	18716



TEST NUMBER: P585305

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	293.0	4.7
10°-20°	825.4	13.2
20°-30°	1179.6	18.9
30°-40°	1253.4	20.1
40°-50°	1079.2	17.3
50°-60°	806.8	12.9
60°-70°	514.6	8.2
70°-80°	234.2	3.7
80°-90°	61.5	1.0
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°	2298.1	36.8
0°-40°	3551.5	56.8
0°-60°	5437.5	87.0
0°-90°	6247.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6247.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3106	3106	3106	3106	3106	
5°	3208	3164	3084	3005	2978	307
15°	3270	3159	2912	2714	2648	921
25°	3014	2824	2480	2330	2299	1380
35°	2347	2184	1893	1844	1897	1462
45°	1536	1452	1306	1341	1438	1194
55°	971	891	834	905	962	873
65°	582	516	485	508	543	581
75°	282	243	199	181	185	300
85°	62	53	48	53	53	74
90°	0	0	0	0	0	



TEST NUMBER: P585305

CATALOG NUMBER: HC880D010-HM86080935-81WWWB

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5
2.5°	3163.8	3155.0	3159.4	3155.0	3159.4	3159.4	3150.6	3150.6	3150.6	3150.6	3137.3
5°	3207.9	3203.5	3203.5	3199.1	3194.7	3199.1	3194.7	3190.3	3181.4	3177.0	3163.8
7.5°	3234.4	3234.4	3234.4	3234.4	3230.0	3225.6	3221.1	3212.3	3203.5	3194.7	3185.9
10°	3260.8	3265.4	3260.8	3256.4	3252.0	3243.2	3238.8	3230.0	3216.7	3203.5	3194.7
12.5°	3274.1	3274.1	3269.8	3269.8	3260.8	3256.4	3243.2	3230.0	3216.7	3203.5	3181.4
15°	3269.8	3269.8	3265.4	3260.8	3247.6	3243.2	3234.4	3221.1	3199.1	3181.4	3159.4
17.5°	3243.2	3238.8	3230.0	3230.0	3212.3	3207.9	3199.1	3181.4	3159.4	3132.9	3106.5
20°	3185.9	3185.9	3181.4	3177.0	3159.4	3146.2	3137.3	3115.3	3097.6	3066.8	3040.3
22.5°	3106.5	3115.3	3106.5	3097.6	3075.6	3071.2	3057.9	3031.5	3005.0	2969.6	2938.7
25°	3013.8	3009.4	3005.0	2996.2	2978.4	2969.6	2952.0	2925.5	2899.0	2859.3	2824.0
27.5°	2894.6	2877.0	2877.0	2859.3	2846.1	2832.9	2824.0	2797.6	2762.3	2731.4	2687.3
30°	2731.4	2735.8	2713.8	2709.4	2687.3	2678.5	2660.7	2634.3	2603.4	2568.1	2532.8
32.5°	2554.9	2541.6	2541.6	2524.0	2506.3	2493.1	2488.7	2457.8	2431.4	2396.1	2360.8
35°	2347.4	2347.4	2334.2	2329.8	2312.1	2303.3	2290.1	2272.4	2241.6	2210.7	2184.2
37.5°	2144.5	2135.7	2131.3	2122.5	2109.2	2096.0	2096.0	2065.1	2060.7	2025.3	1990.0
40°	1919.5	1928.3	1919.5	1906.2	1901.8	1893.0	1888.6	1870.9	1857.7	1826.8	1804.8
42.5°	1729.8	1721.0	1721.0	1716.4	1698.8	1698.8	1690.0	1681.2	1659.1	1650.3	1623.8
45°	1535.6	1544.4	1531.2	1535.6	1517.9	1517.9	1517.9	1500.3	1482.7	1469.4	1451.8
47.5°	1367.9	1372.3	1372.3	1359.0	1354.6	1354.6	1345.8	1337.0	1323.7	1306.1	1292.9
50°	1222.3	1226.7	1217.9	1213.5	1204.6	1200.2	1200.2	1182.6	1173.8	1156.1	1147.3
52.5°	1090.0	1090.0	1085.4	1085.4	1072.2	1072.2	1063.4	1050.2	1041.3	1032.5	1010.5
55°	970.8	970.8	966.3	961.9	961.9	948.7	944.3	931.1	922.2	904.6	891.4
57.5°	856.1	860.5	856.1	851.7	847.2	842.8	834.0	820.8	812.0	798.7	789.9
60°	763.3	763.3	758.9	754.5	745.7	741.3	736.9	728.0	714.8	706.0	692.8
62.5°	675.1	670.7	666.3	661.9	653.1	653.1	644.2	635.4	622.2	613.4	604.5
65°	582.5	582.5	578.1	578.1	573.7	564.8	560.4	556.0	538.4	534.0	516.3
67.5°	498.7	503.1	494.3	494.3	485.3	485.3	481.0	467.8	463.4	454.4	445.6
70°	423.6	423.6	423.6	419.2	410.3	405.9	401.5	392.7	388.3	379.5	370.6
72.5°	348.6	348.6	344.2	344.2	339.8	335.3	330.9	322.1	322.1	313.3	304.5
75°	282.4	282.4	278.0	273.6	269.2	269.2	264.8	260.4	251.5	247.1	242.7
77.5°	216.2	216.2	216.2	211.8	207.4	207.4	207.4	198.6	189.8	189.8	185.4
80°	158.9	158.9	154.5	154.5	150.1	150.1	150.1	145.7	141.3	136.7	132.3
82.5°	105.9	105.9	105.9	105.9	101.5	101.5	101.5	97.0	92.6	92.6	92.6
85°	61.8	61.8	61.8	61.8	57.3	57.3	57.3	57.3	57.3	52.9	52.9
87.5°	26.5	22.1	26.5	22.1	26.5	22.1	26.5	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: P585305

CATALOG NUMBER: HC880D010-HM86080935-81WWWB

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5
2.5°	3141.7	3137.3	3132.9	3128.5	3128.5	3124.1	3115.3	3110.9	3106.5	3102.0	3102.0
5°	3159.4	3155.0	3146.2	3137.3	3132.9	3124.1	3115.3	3106.5	3097.6	3084.4	3080.0
7.5°	3172.6	3159.4	3150.6	3132.9	3128.5	3119.7	3106.5	3093.2	3075.6	3057.9	3044.7
10°	3172.6	3155.0	3141.7	3119.7	3110.9	3102.0	3084.4	3062.3	3040.3	3022.6	3000.6
12.5°	3163.8	3141.7	3119.7	3097.6	3084.4	3071.2	3044.7	3022.6	2996.2	2969.6	2952.0
15°	3132.9	3106.5	3080.0	3053.5	3040.3	3022.6	2996.2	2965.2	2938.7	2912.3	2881.4
17.5°	3075.6	3049.1	3018.2	2987.4	2969.6	2956.4	2916.7	2894.6	2854.9	2828.5	2802.0
20°	3000.6	2969.6	2929.9	2899.0	2877.0	2863.7	2832.9	2793.2	2762.3	2722.6	2696.1
22.5°	2903.4	2863.7	2824.0	2793.2	2771.1	2753.5	2713.8	2674.1	2647.5	2612.2	2581.3
25°	2788.8	2749.1	2709.4	2665.1	2643.1	2625.4	2590.2	2554.9	2519.6	2479.9	2453.4
27.5°	2651.9	2607.8	2572.5	2532.8	2510.8	2484.3	2444.6	2409.3	2374.0	2347.4	2312.1
30°	2501.9	2453.4	2418.1	2378.4	2356.4	2334.2	2294.5	2259.2	2228.3	2197.5	2179.8
32.5°	2321.0	2285.7	2250.4	2210.7	2193.0	2179.8	2140.1	2104.8	2069.5	2043.1	2029.7
35°	2148.9	2109.2	2078.4	2043.1	2020.9	2007.7	1972.4	1941.5	1923.9	1893.0	1875.3
37.5°	1968.0	1937.1	1901.8	1866.5	1853.3	1840.1	1813.6	1782.7	1756.2	1734.2	1725.4
40°	1778.3	1751.8	1721.0	1698.8	1685.6	1672.3	1650.3	1628.2	1610.6	1588.5	1579.7
42.5°	1597.3	1579.7	1553.2	1526.8	1513.5	1509.1	1482.7	1465.0	1456.2	1447.4	1438.5
45°	1434.1	1407.7	1389.9	1372.3	1359.0	1350.2	1337.0	1323.7	1314.9	1306.1	1297.3
47.5°	1275.2	1253.2	1235.5	1222.3	1209.1	1204.6	1195.8	1182.6	1173.8	1173.8	1173.8
50°	1129.7	1112.0	1094.4	1085.4	1081.0	1072.2	1063.4	1059.0	1054.6	1054.6	1054.6
52.5°	1001.6	984.0	970.8	961.9	961.9	953.1	944.3	939.9	939.9	939.9	939.9
55°	882.5	869.3	860.5	851.7	842.8	838.4	838.4	838.4	834.0	834.0	838.4
57.5°	776.7	767.7	754.5	745.7	741.3	741.3	736.9	732.5	736.9	741.3	745.7
60°	679.5	670.7	666.3	653.1	653.1	653.1	648.6	648.6	648.6	653.1	657.5
62.5°	591.3	586.9	578.1	573.7	569.2	569.2	564.8	564.8	564.8	564.8	569.2
65°	511.9	503.1	494.3	494.3	494.3	489.7	489.7	481.0	485.3	485.3	481.0
67.5°	436.8	428.0	423.6	419.2	414.7	414.7	410.3	405.9	401.5	401.5	401.5
70°	366.2	357.4	357.4	348.6	348.6	344.2	339.8	339.8	335.3	330.9	326.5
72.5°	295.6	291.2	286.8	282.4	282.4	282.4	278.0	273.6	269.2	264.8	255.9
75°	233.9	233.9	225.1	220.7	220.7	216.2	211.8	207.4	203.0	198.6	194.2
77.5°	181.0	176.4	167.6	163.2	163.2	163.2	158.9	154.5	150.1	145.7	141.3
80°	132.3	127.9	123.5	119.1	119.1	119.1	114.7	114.7	110.3	110.3	110.3
82.5°	88.2	88.2	83.8	83.8	83.8	83.8	79.4	79.4	79.4	79.4	79.4
85°	52.9	52.9	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5
87.5°	22.1	22.1	22.1	22.1	22.1	22.1	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: P585305

CATALOG NUMBER: HC880D010-HM86080935-81WWWB

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5
2.5°	3093.2	3093.2	3084.4	3080.0	3075.6	3080.0	3071.2	3066.8	3062.3	3062.3	3057.9
5°	3066.8	3062.3	3044.7	3040.3	3035.9	3031.5	3022.6	3013.8	3005.0	3000.6	2996.2
7.5°	3031.5	3018.2	3000.6	2996.2	2991.8	2978.4	2965.2	2956.4	2943.1	2938.7	2929.9
10°	2982.8	2965.2	2952.0	2938.7	2929.9	2916.7	2903.4	2890.2	2872.6	2868.2	2854.9
12.5°	2925.5	2903.4	2877.0	2872.6	2859.3	2841.7	2824.0	2810.8	2797.6	2788.8	2775.5
15°	2854.9	2832.9	2806.4	2793.2	2779.9	2766.7	2744.6	2727.0	2713.8	2700.5	2687.3
17.5°	2771.1	2744.6	2722.6	2709.4	2700.5	2678.5	2660.7	2638.7	2625.4	2612.2	2599.0
20°	2669.7	2647.5	2616.6	2603.4	2599.0	2581.3	2559.3	2550.5	2532.8	2519.6	2510.8
22.5°	2554.9	2532.8	2506.3	2497.5	2479.9	2471.1	2449.0	2440.2	2431.4	2418.1	2413.7
25°	2426.9	2404.9	2382.8	2378.4	2365.2	2356.4	2343.0	2329.8	2329.8	2316.6	2316.6
27.5°	2294.5	2272.4	2254.8	2246.0	2241.6	2232.7	2219.5	2215.1	2210.7	2206.3	2206.3
30°	2153.3	2126.9	2118.1	2113.6	2109.2	2100.4	2096.0	2087.2	2091.6	2096.0	2091.6
32.5°	2003.3	1994.4	1976.8	1968.0	1972.4	1968.0	1959.2	1968.0	1963.6	1972.4	1976.8
35°	1857.7	1848.9	1840.1	1840.1	1831.2	1831.2	1831.2	1835.6	1844.5	1848.9	1857.7
37.5°	1716.4	1703.2	1698.8	1694.4	1698.8	1698.8	1698.8	1707.6	1716.4	1725.4	1738.6
40°	1566.5	1557.6	1557.6	1557.6	1557.6	1570.9	1566.5	1575.3	1584.1	1597.3	1610.6
42.5°	1425.3	1425.3	1429.7	1429.7	1429.7	1429.7	1438.5	1451.8	1465.0	1478.2	1491.5
45°	1292.9	1292.9	1292.9	1301.7	1301.7	1306.1	1323.7	1332.6	1341.4	1354.6	1367.9
47.5°	1169.4	1169.4	1173.8	1178.2	1182.6	1191.4	1200.2	1213.5	1226.7	1235.5	1248.8
50°	1054.6	1059.0	1067.8	1076.6	1076.6	1081.0	1094.4	1103.2	1112.0	1125.2	1129.7
52.5°	944.3	953.1	961.9	966.3	970.8	979.6	984.0	997.2	1001.6	1014.9	1019.3
55°	842.8	847.2	860.5	864.9	864.9	873.7	882.5	891.4	904.6	904.6	913.4
57.5°	750.1	754.5	763.3	767.7	763.3	776.7	781.1	789.9	794.3	803.1	807.4
60°	657.5	666.3	670.7	670.7	675.1	679.5	688.3	688.3	697.2	706.0	706.0
62.5°	569.2	573.7	578.1	582.5	586.9	582.5	595.7	595.7	604.5	608.9	617.8
65°	485.3	489.7	489.7	494.3	494.3	498.7	498.7	503.1	507.5	516.3	520.7
67.5°	401.5	401.5	401.5	405.9	401.5	405.9	405.9	410.3	410.3	419.2	423.6
70°	326.5	322.1	317.7	317.7	317.7	317.7	313.3	317.7	317.7	322.1	322.1
72.5°	251.5	247.1	242.7	238.3	238.3	233.9	229.5	233.9	233.9	238.3	238.3
75°	189.8	181.0	181.0	181.0	176.4	176.4	176.4	181.0	181.0	181.0	185.4
77.5°	141.3	141.3	136.7	136.7	136.7	141.3	141.3	145.7	145.7	145.7	145.7
80°	105.9	110.3	110.3	110.3	110.3	114.7	114.7	114.7	114.7	119.1	119.1
82.5°	79.4	79.4	79.4	79.4	83.8	83.8	83.8	83.8	83.8	83.8	83.8
85°	48.5	52.9	52.9	48.5	52.9	52.9	52.9	52.9	52.9	52.9	52.9
87.5°	22.1	22.1	22.1	22.1	22.1	22.1	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: P585305

CATALOG NUMBER: HC880D010-HM86080935-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5	3106.5
2.5°	3053.5	3053.5	3053.5	3053.5	3049.1	3049.1	3049.1	3044.7
5°	2987.4	2987.4	2987.4	2978.4	2982.8	2982.8	2974.0	2978.4
7.5°	2921.1	2916.7	2912.3	2912.3	2907.9	2903.4	2899.0	2903.4
10°	2846.1	2832.9	2832.9	2828.5	2828.5	2819.6	2819.6	2824.0
12.5°	2762.3	2753.5	2753.5	2749.1	2744.6	2740.2	2735.8	2735.8
15°	2678.5	2669.7	2665.1	2660.7	2656.3	2647.5	2651.9	2647.5
17.5°	2594.6	2581.3	2581.3	2576.9	2572.5	2563.7	2563.7	2559.3
20°	2497.5	2493.1	2484.3	2488.7	2484.3	2475.5	2471.1	2471.1
22.5°	2400.5	2400.5	2396.1	2396.1	2391.7	2387.2	2382.8	2382.8
25°	2307.7	2303.3	2307.7	2307.7	2294.5	2294.5	2294.5	2298.9
27.5°	2201.9	2206.3	2201.9	2201.9	2201.9	2201.9	2206.3	2201.9
30°	2096.0	2096.0	2096.0	2100.4	2109.2	2104.8	2104.8	2100.4
32.5°	1981.2	1985.6	1985.6	1990.0	1994.4	2003.3	2003.3	2007.7
35°	1866.5	1875.3	1879.8	1875.3	1888.6	1888.6	1897.4	1897.4
37.5°	1747.4	1751.8	1760.7	1765.1	1773.9	1778.3	1782.7	1782.7
40°	1619.4	1637.0	1641.5	1645.9	1659.1	1659.1	1663.5	1672.3
42.5°	1500.3	1517.9	1522.4	1526.8	1535.6	1548.8	1544.4	1553.2
45°	1385.5	1398.7	1403.1	1407.7	1420.9	1425.3	1425.3	1438.5
47.5°	1262.0	1270.8	1275.2	1284.0	1292.9	1301.7	1310.5	1306.1
50°	1138.5	1151.7	1160.5	1164.9	1178.2	1182.6	1187.0	1191.4
52.5°	1028.1	1036.9	1041.3	1045.7	1059.0	1063.4	1067.8	1076.6
55°	922.2	926.6	935.5	931.1	944.3	948.7	953.1	961.9
57.5°	816.4	820.8	825.2	825.2	834.0	842.8	847.2	851.7
60°	714.8	723.6	728.0	728.0	728.0	736.9	736.9	736.9
62.5°	622.2	622.2	626.6	626.6	635.4	635.4	635.4	635.4
65°	525.1	529.5	534.0	534.0	542.8	538.4	547.2	542.8
67.5°	423.6	423.6	432.4	432.4	428.0	432.4	432.4	432.4
70°	322.1	322.1	326.5	326.5	326.5	326.5	326.5	326.5
72.5°	238.3	238.3	238.3	242.7	238.3	238.3	242.7	238.3
75°	185.4	185.4	185.4	185.4	185.4	185.4	185.4	185.4
77.5°	145.7	145.7	150.1	150.1	150.1	150.1	150.1	150.1
80°	119.1	119.1	119.1	119.1	123.5	119.1	119.1	119.1
82.5°	88.2	83.8	88.2	83.8	88.2	88.2	88.2	88.2
85°	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9
87.5°	22.1	22.1	22.1	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



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













(END OF REPORT)