

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: P584164

Luminaire Tested: **HC825D010-HM82555840-81WWBB**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584164  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-17)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC825D010-HM82555840-81WWBB  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2306.7 lumens  
Efficiency: N/A  
Efficacy: 86.1 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.07 / 1.16  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

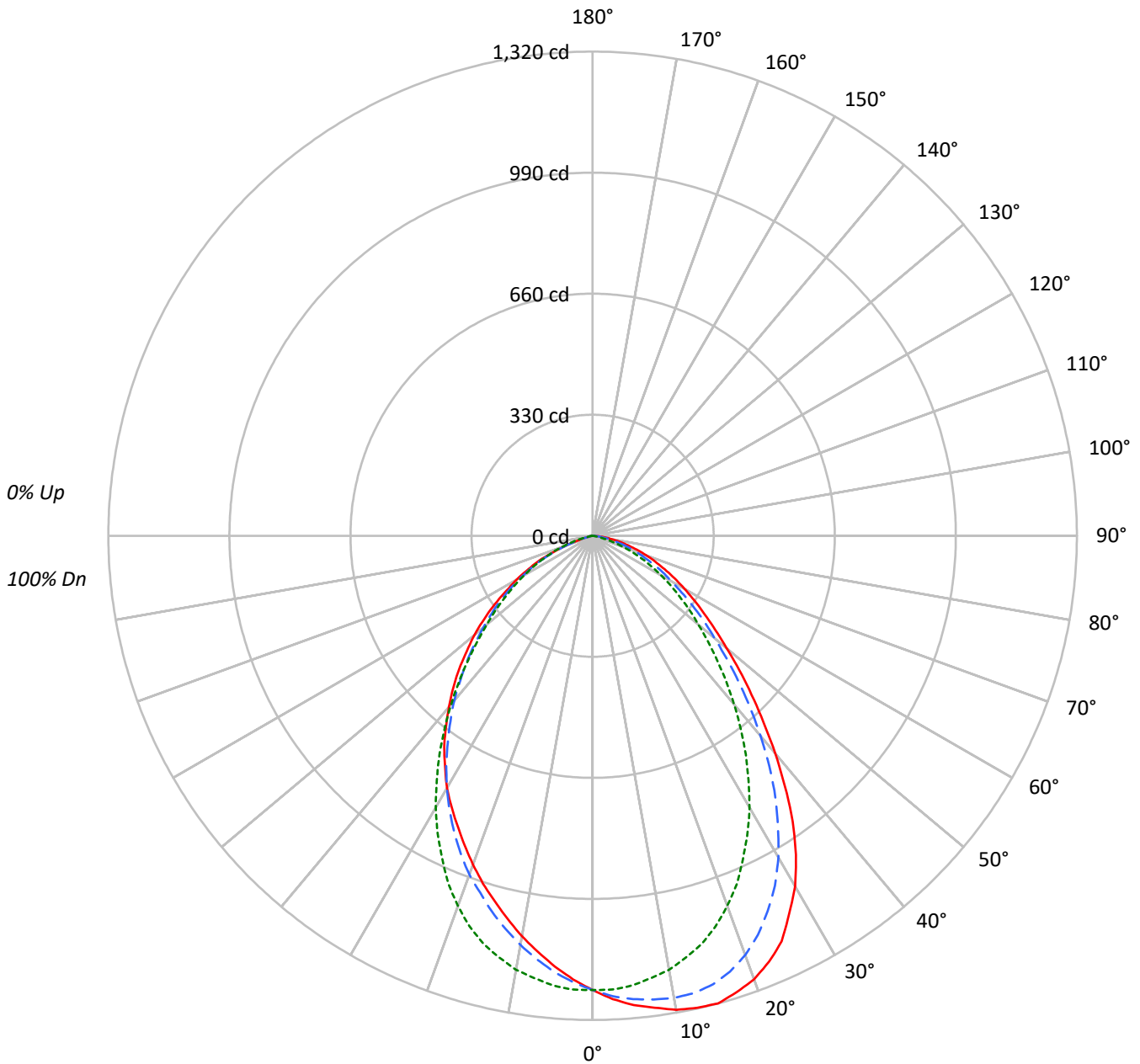
Input Watts (W): 26.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77			
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67			
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59			
5	82	70	63	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53			
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	58	53	49	47			
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	49	44	43			
8	66	54	46	41	65	53	46	41	52	46	41	51	45	41	50	44	40	39			
9	62	50	43	37	61	50	42	37	48	42	37	47	41	37	46	41	37	35			
10	59	47	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	38185	38185	38185
5°	39764	38101	36498
10°	41094	37615	34716
15°	42133	36754	32917
20°	42217	35231	31283
25°	41503	33003	29662
30°	39285	30447	28279
35°	35815	27386	26547
40°	31144	24140	24515
45°	26719	20911	22441
50°	22821	18028	20158
55°	19999	15526	17515
60°	17811	13241	14727
65°	15804	10806	11747
70°	14020	8006	6672
75°	11688	4194	1990
80°	9199	1314	320
85°	6545	637	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.7	5.1
10°-20°	327.1	14.2
20°-30°	462.9	20.1
30°-40°	484.3	21.0
40°-50°	403.9	17.5
50°-60°	286.4	12.4
60°-70°	165.0	7.2
70°-80°	53.1	2.3
80°-90°	7.3	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°	906.6	39.3
0°-40°	1390.9	60.3
0°-60°	2081.3	90.2
0°-90°	2306.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2306.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1238	1238	1238	1238	1238	
5°	1285	1268	1231	1194	1179	123
15°	1320	1266	1151	1061	1031	371
25°	1220	1129	970	892	872	557
35°	951	868	728	688	705	590
45°	613	563	480	485	515	475
55°	372	333	289	304	326	336
65°	217	181	148	148	161	216
75°	98	72	35	17	17	106
85°	18	9	2	0	0	23
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°	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3
2.5°	1264.3	1262.4	1260.6	1262.4	1260.6	1262.4	1260.6	1260.6	1258.7	1256.8	1256.8
5°	1284.6	1282.8	1282.8	1282.8	1280.9	1279.1	1279.1	1277.3	1273.5	1271.7	1268.0
7.5°	1297.6	1299.4	1299.4	1299.4	1295.8	1295.8	1292.0	1288.4	1284.6	1280.9	1275.3
10°	1312.4	1312.4	1310.5	1308.7	1305.0	1303.2	1301.3	1297.6	1292.0	1284.6	1279.1
12.5°	1317.9	1317.9	1316.1	1312.4	1310.5	1308.7	1306.8	1301.3	1293.8	1284.6	1277.3
15°	1319.8	1316.1	1314.3	1312.4	1308.7	1303.2	1303.2	1295.8	1286.5	1275.3	1266.1
17.5°	1305.0	1306.8	1303.2	1299.4	1293.8	1290.2	1284.6	1279.1	1268.0	1255.0	1245.8
20°	1286.5	1284.6	1282.8	1277.3	1269.9	1268.0	1262.4	1253.2	1243.9	1229.1	1216.2
22.5°	1256.8	1255.0	1251.4	1247.6	1240.2	1236.5	1230.9	1219.8	1206.9	1192.1	1177.3
25°	1219.8	1216.2	1210.6	1203.2	1197.7	1193.9	1186.5	1175.4	1160.6	1143.9	1129.2
27.5°	1160.6	1166.2	1162.4	1151.3	1145.8	1138.4	1136.6	1121.8	1108.7	1092.1	1075.5
30°	1103.3	1103.3	1097.7	1092.1	1082.8	1077.3	1069.9	1058.8	1045.8	1025.5	1012.5
32.5°	1031.1	1029.2	1021.7	1019.9	1012.5	1001.4	999.6	984.7	971.8	957.0	940.3
35°	951.4	947.7	940.3	934.8	931.1	925.6	920.0	907.0	894.1	879.2	868.1
37.5°	860.7	860.7	858.9	849.7	845.9	842.2	836.6	823.7	816.3	801.5	790.4
40°	773.7	771.9	766.3	764.5	760.8	755.2	751.6	744.1	733.1	721.9	710.8
42.5°	688.5	690.5	683.1	684.9	677.5	673.8	672.0	660.8	655.3	644.1	634.9
45°	612.7	610.9	607.1	605.3	601.6	597.9	594.2	588.6	579.4	568.3	562.7
47.5°	542.4	536.8	536.8	535.0	533.1	525.7	523.9	518.3	512.7	501.6	494.2
50°	475.7	475.7	475.7	473.9	468.3	466.4	462.8	457.2	451.6	444.3	433.1
52.5°	422.0	422.0	422.0	420.2	412.8	411.0	409.1	401.7	394.3	388.7	381.3
55°	372.0	374.0	372.0	368.4	362.8	362.8	357.3	353.5	346.1	340.6	333.2
57.5°	329.5	329.5	325.8	323.9	320.3	318.4	314.7	310.9	301.7	296.2	286.9
60°	288.8	286.9	286.9	283.2	279.5	275.8	273.9	268.4	264.7	255.4	248.0
62.5°	251.8	251.8	248.0	248.0	240.6	240.6	238.8	233.3	227.7	218.4	214.7
65°	216.6	216.6	214.7	212.8	207.4	205.4	203.6	198.1	192.5	186.9	181.4
67.5°	185.1	185.1	181.4	179.5	175.8	174.0	170.3	166.6	161.0	155.5	149.9
70°	155.5	153.7	151.8	149.9	146.3	144.3	140.7	137.0	131.4	127.8	122.2
72.5°	125.8	125.8	124.0	120.3	118.4	116.6	114.8	111.1	105.5	99.9	96.3
75°	98.1	98.1	98.1	94.4	90.7	88.8	88.8	85.2	81.4	75.9	72.2
77.5°	75.9	74.0	72.2	72.2	68.5	66.7	64.7	62.9	57.4	55.5	51.8
80°	51.8	53.7	51.8	50.0	48.2	46.2	46.2	42.6	40.8	37.0	33.3
82.5°	35.2	33.3	33.3	31.5	31.5	29.6	29.6	25.9	24.1	22.3	20.3
85°	18.5	18.5	16.7	16.7	16.7	14.8	14.8	12.9	12.9	11.1	9.2
87.5°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	3.7	3.7	3.7
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°	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3
2.5°	1255.0	1251.4	1249.4	1249.4	1247.6	1245.8	1243.9	1242.1	1238.3	1238.3	1234.7
5°	1264.3	1260.6	1258.7	1253.2	1249.4	1249.4	1242.1	1240.2	1234.7	1230.9	1227.3
7.5°	1271.7	1264.3	1258.7	1253.2	1249.4	1245.8	1238.3	1230.9	1223.5	1216.2	1212.4
10°	1271.7	1264.3	1255.0	1245.8	1242.1	1238.3	1229.1	1218.0	1208.8	1201.3	1192.1
12.5°	1268.0	1256.8	1245.8	1238.3	1230.9	1225.4	1214.3	1203.2	1192.1	1177.3	1169.8
15°	1256.8	1242.1	1230.9	1218.0	1212.4	1203.2	1193.9	1177.3	1164.3	1151.3	1142.1
17.5°	1234.7	1216.2	1203.2	1190.3	1181.0	1175.4	1160.6	1145.8	1131.0	1116.2	1105.1
20°	1201.3	1184.7	1169.8	1153.2	1145.8	1138.4	1119.9	1105.1	1090.2	1073.6	1062.5
22.5°	1160.6	1143.9	1123.6	1110.7	1099.5	1090.2	1073.6	1056.9	1042.2	1027.3	1012.5
25°	1110.7	1094.0	1075.5	1055.1	1047.7	1038.4	1019.9	1003.2	986.6	970.0	957.0
27.5°	1056.9	1034.7	1019.9	997.7	990.3	981.1	960.6	942.1	927.4	914.4	899.7
30°	992.2	975.5	955.2	934.8	927.4	918.2	901.5	884.8	870.0	855.1	840.4
32.5°	921.8	905.1	884.8	870.0	858.9	851.5	834.8	820.0	805.2	790.4	777.5
35°	847.8	829.2	814.5	799.6	790.4	781.1	764.5	751.6	740.4	727.5	714.5
37.5°	771.9	759.0	744.1	727.5	718.2	710.8	697.9	683.1	673.8	662.7	653.4
40°	697.9	683.1	670.0	655.3	647.9	642.3	629.4	618.2	609.0	599.7	594.2
42.5°	622.0	609.0	596.0	586.8	581.2	575.7	566.5	553.5	547.9	538.6	533.1
45°	551.6	540.5	531.3	518.3	514.6	510.9	499.8	490.5	484.9	479.5	475.7
47.5°	484.9	477.5	466.4	459.0	453.5	449.8	442.4	435.0	429.5	425.8	422.0
50°	427.6	418.4	411.0	403.5	399.9	394.3	386.9	383.2	379.4	375.8	375.8
52.5°	374.0	364.7	357.3	351.7	348.0	344.3	338.8	336.9	333.2	333.2	331.4
55°	323.9	318.4	310.9	303.6	301.7	299.9	296.2	292.4	290.6	288.8	290.6
57.5°	281.4	275.8	268.4	262.9	261.0	259.2	257.3	253.6	251.8	251.8	251.8
60°	242.5	236.9	231.3	225.9	225.9	222.1	220.3	218.4	216.6	214.7	214.7
62.5°	207.4	201.8	196.2	192.5	190.7	188.9	185.1	183.3	181.4	181.4	179.5
65°	175.8	168.4	166.6	161.0	159.2	157.3	155.5	151.8	149.9	148.1	146.3
67.5°	144.3	140.7	135.1	131.4	129.6	127.8	125.8	122.2	120.3	118.4	114.8
70°	116.6	112.9	109.2	105.5	103.7	101.8	98.1	94.4	92.6	88.8	83.2
72.5°	90.7	87.0	83.2	79.6	77.8	75.9	72.2	68.5	64.7	61.1	57.4
75°	68.5	64.7	59.3	55.5	53.7	53.7	48.2	44.4	40.8	35.2	31.5
77.5°	48.2	42.6	40.8	37.0	35.2	31.5	27.7	24.1	20.3	18.5	14.8
80°	31.5	27.7	24.1	22.3	20.3	18.5	16.7	12.9	9.2	7.4	5.6
82.5°	18.5	16.7	14.8	12.9	11.1	9.2	7.4	7.4	5.6	3.7	1.8
85°	9.2	7.4	5.6	5.6	3.7	3.7	3.7	1.8	1.8	1.8	1.8
87.5°	3.7	1.8	1.8	1.8	1.8	1.8	1.8	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°	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3
2.5°	1232.9	1230.9	1229.1	1227.3	1227.3	1223.5	1223.5	1221.7	1218.0	1216.2	1216.2
5°	1221.7	1216.2	1212.4	1210.6	1208.8	1203.2	1201.3	1197.7	1193.9	1190.3	1188.3
7.5°	1205.0	1195.8	1192.1	1190.3	1184.7	1179.1	1175.4	1169.8	1164.3	1158.8	1156.9
10°	1184.7	1175.4	1166.2	1162.4	1156.9	1153.2	1145.8	1138.4	1132.8	1127.2	1121.8
12.5°	1158.8	1147.7	1138.4	1134.7	1129.2	1121.8	1110.7	1106.9	1097.7	1094.0	1086.6
15°	1129.2	1116.2	1106.9	1101.4	1095.8	1084.8	1077.3	1069.9	1060.7	1056.9	1049.6
17.5°	1092.1	1077.3	1068.1	1062.5	1058.8	1049.6	1038.4	1029.2	1019.9	1016.2	1010.7
20°	1047.7	1038.4	1025.5	1019.9	1016.2	1005.2	994.0	990.3	982.9	975.5	970.0
22.5°	997.7	988.5	975.5	970.0	968.1	958.8	949.6	944.1	938.5	932.9	927.4
25°	945.9	934.8	923.6	920.0	916.2	908.9	901.5	897.7	892.2	888.5	884.8
27.5°	890.3	879.2	870.0	864.5	860.7	855.1	851.5	847.8	844.1	840.4	838.6
30°	831.2	820.0	812.7	808.9	805.2	803.4	797.8	796.0	794.2	790.4	792.2
32.5°	771.9	762.6	755.2	749.6	749.6	746.0	744.1	744.1	742.3	742.3	742.3
35°	707.1	701.6	696.0	694.1	692.3	690.5	688.5	690.5	688.5	690.5	692.3
37.5°	647.9	642.3	638.6	636.8	634.9	636.8	634.9	634.9	636.8	640.5	642.3
40°	586.8	583.0	579.4	581.2	579.4	579.4	579.4	585.0	586.8	588.6	590.5
42.5°	529.4	525.7	523.9	523.9	525.7	523.9	527.5	529.4	533.1	538.6	542.4
45°	473.9	472.0	472.0	473.9	472.0	475.7	475.7	479.5	484.9	488.7	492.4
47.5°	422.0	422.0	422.0	423.9	423.9	425.8	429.5	431.3	435.0	438.7	442.4
50°	374.0	375.8	377.6	377.6	377.6	381.3	385.0	386.9	388.7	390.6	396.1
52.5°	331.4	333.2	333.2	335.0	336.9	338.8	340.6	344.3	346.1	349.9	351.7
55°	290.6	290.6	294.4	296.2	296.2	296.2	299.9	299.9	303.6	305.4	309.1
57.5°	251.8	253.6	253.6	255.4	255.4	257.3	259.2	261.0	262.9	264.7	266.5
60°	214.7	214.7	214.7	216.6	218.4	220.3	218.4	222.1	222.1	225.9	227.7
62.5°	179.5	181.4	181.4	181.4	181.4	181.4	181.4	183.3	185.1	186.9	188.9
65°	146.3	146.3	146.3	144.3	146.3	144.3	146.3	148.1	148.1	149.9	151.8
67.5°	112.9	112.9	109.2	109.2	111.1	111.1	111.1	111.1	109.2	112.9	112.9
70°	81.4	79.6	77.8	75.9	75.9	74.0	74.0	72.2	72.2	72.2	72.2
72.5°	53.7	50.0	46.2	44.4	42.6	42.6	38.8	37.0	38.8	38.8	38.8
75°	27.7	24.1	22.3	20.3	18.5	18.5	16.7	16.7	16.7	16.7	16.7
77.5°	11.1	9.2	7.4	7.4	5.6	5.6	5.6	5.6	5.6	5.6	5.6
80°	3.7	3.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
82.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
85°	1.8	0.0	0.0	1.8	0.0	1.8	1.8	1.8	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: P584164

CATALOG NUMBER: HC825D010-HM82555840-81WWBB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3	1238.3
2.5°	1214.3	1214.3	1212.4	1214.3	1210.6	1212.4	1210.6	1210.6
5°	1186.5	1182.8	1182.8	1182.8	1181.0	1181.0	1179.1	1179.1
7.5°	1153.2	1151.3	1149.5	1147.7	1145.8	1143.9	1143.9	1143.9
10°	1119.9	1116.2	1116.2	1114.3	1110.7	1108.7	1108.7	1108.7
12.5°	1081.0	1079.2	1077.3	1077.3	1069.9	1071.7	1069.9	1069.9
15°	1044.0	1042.2	1042.2	1036.6	1032.9	1032.9	1032.9	1031.1
17.5°	1005.2	1003.2	1001.4	997.7	994.0	994.0	992.2	994.0
20°	964.4	962.6	958.8	958.8	957.0	955.2	951.4	953.3
22.5°	923.6	920.0	918.2	918.2	916.2	916.2	912.6	912.6
25°	881.1	879.2	877.4	879.2	875.6	875.6	871.8	871.8
27.5°	836.6	834.8	834.8	834.8	833.0	834.8	833.0	833.0
30°	792.2	792.2	790.4	790.4	792.2	790.4	792.2	794.2
32.5°	744.1	744.1	746.0	746.0	747.8	747.8	747.8	747.8
35°	694.1	697.9	697.9	699.7	701.6	703.4	703.4	705.2
37.5°	647.9	649.7	651.5	653.4	657.1	657.1	657.1	657.1
40°	597.9	599.7	603.5	601.6	609.0	610.9	609.0	609.0
42.5°	546.0	549.8	551.6	555.3	557.1	560.9	562.7	562.7
45°	498.0	499.8	503.4	507.2	509.0	514.6	514.6	514.6
47.5°	447.9	451.6	453.5	457.2	459.0	464.6	466.4	464.6
50°	399.9	403.5	407.2	407.2	412.8	414.6	418.4	420.2
52.5°	353.5	355.5	359.1	360.9	364.7	368.4	370.2	372.0
55°	309.1	310.9	314.7	314.7	320.3	322.1	325.8	325.8
57.5°	268.4	270.3	273.9	272.1	275.8	279.5	279.5	277.7
60°	229.5	229.5	229.5	233.3	235.1	236.9	238.8	238.8
62.5°	188.9	192.5	194.3	194.3	196.2	198.1	198.1	196.2
65°	151.8	155.5	157.3	157.3	159.2	159.2	159.2	161.0
67.5°	114.8	114.8	114.8	116.6	114.8	114.8	114.8	114.8
70°	72.2	72.2	72.2	72.2	70.3	72.2	72.2	74.0
72.5°	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8
75°	16.7	16.7	16.7	18.5	16.7	16.7	16.7	16.7
77.5°	7.4	5.6	7.4	7.4	5.6	5.6	5.6	5.6
80°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
82.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
85°	0.0	1.8	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)