

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: P593649

Luminaire Tested: **HC825D010-HM82555950-81WWBB**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P593649  
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-HM82555950-81WWBB  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2195.4 lumens  
Efficiency: N/A  
Efficacy: 81.9 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

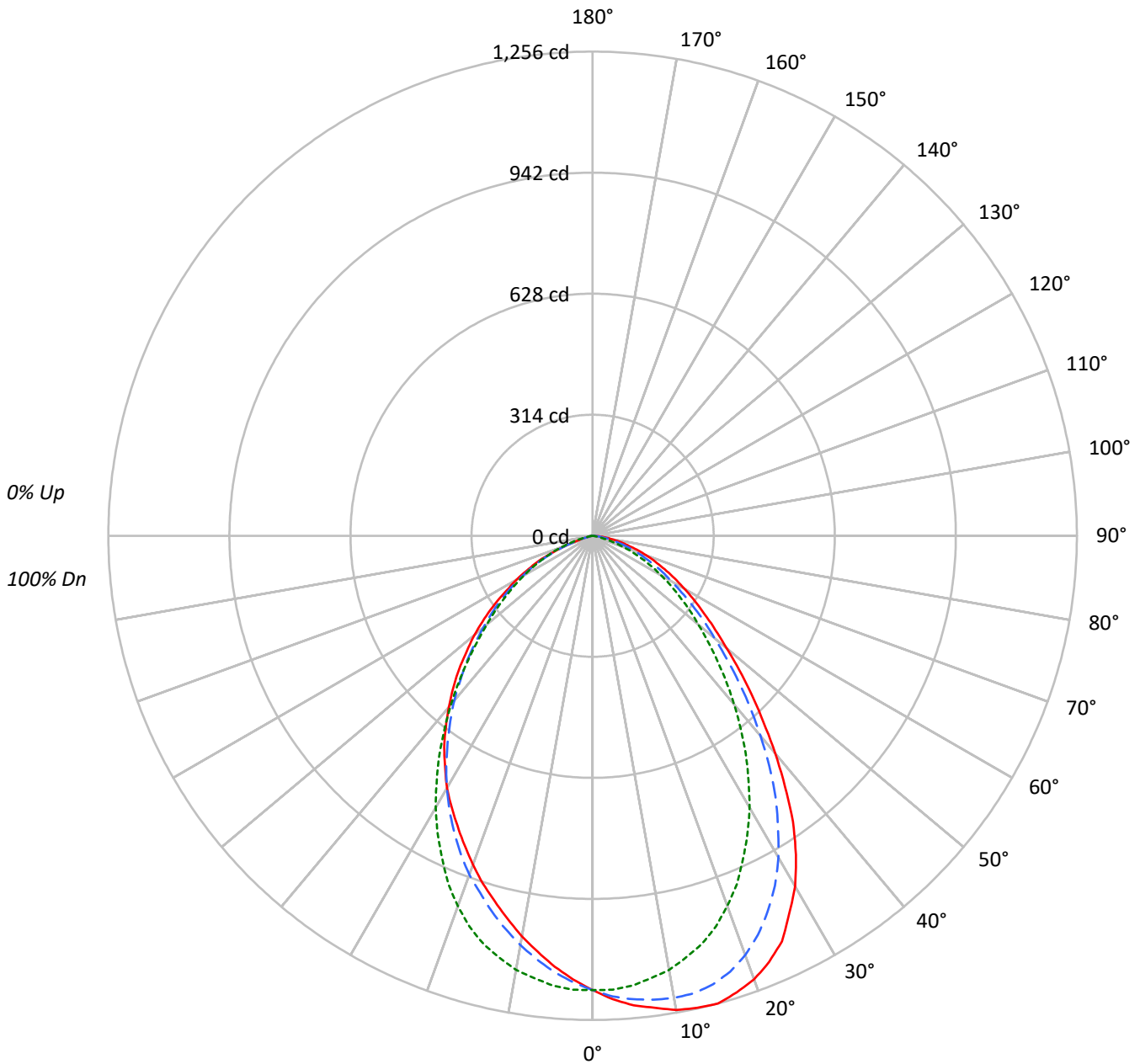
Input Watts (W): 26.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
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	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°	36344	36344	36344
5°	37848	36263	34737
10°	39112	35802	33044
15°	40103	34982	31327
20°	40179	33531	29773
25°	39502	31411	28233
30°	37387	28980	26908
35°	34087	26065	25267
40°	29643	22977	23331
45°	25433	19894	21355
50°	21722	17155	19189
55°	19037	14779	16671
60°	16954	12606	14018
65°	15038	10281	11178
70°	13344	7618	6356
75°	11128	3991	1882
80°	8755	1261	302
85°	6262	601	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.1	5.1
10°-20°	311.3	14.2
20°-30°	440.6	20.1
30°-40°	460.9	21.0
40°-50°	384.4	17.5
50°-60°	272.6	12.4
60°-70°	157.0	7.2
70°-80°	50.5	2.3
80°-90°	6.9	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°	862.9	39.3
0°-40°	1323.8	60.3
0°-60°	1980.9	90.2
0°-90°	2195.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2195.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1179	1179	1179	1179	1179	
5°	1223	1207	1172	1136	1122	117
15°	1256	1205	1096	1009	981	353
25°	1161	1075	923	849	830	530
35°	906	826	692	655	671	561
45°	583	536	456	462	490	452
55°	354	317	275	289	310	320
65°	206	173	141	141	153	206
75°	93	69	34	16	16	101
85°	18	9	2	0	0	22
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°	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6
2.5°	1203.3	1201.5	1199.8	1201.5	1199.8	1201.5	1199.8	1199.8	1198.0	1196.3	1196.3
5°	1222.7	1220.9	1220.9	1220.9	1219.2	1217.3	1217.3	1215.6	1212.1	1210.3	1206.9
7.5°	1235.0	1236.7	1236.7	1236.7	1233.3	1233.3	1229.8	1226.2	1222.7	1219.2	1213.8
10°	1249.1	1249.1	1247.3	1245.6	1242.1	1240.2	1238.5	1235.0	1229.8	1222.7	1217.3
12.5°	1254.4	1254.4	1252.6	1249.1	1247.3	1245.6	1243.8	1238.5	1231.5	1222.7	1215.6
15°	1256.2	1252.6	1250.8	1249.1	1245.6	1240.2	1240.2	1233.3	1224.4	1213.8	1205.0
17.5°	1242.1	1243.8	1240.2	1236.7	1231.5	1227.9	1222.7	1217.3	1206.9	1194.4	1185.7
20°	1224.4	1222.7	1220.9	1215.6	1208.6	1206.9	1201.5	1192.7	1183.8	1169.8	1157.5
22.5°	1196.3	1194.4	1190.9	1187.4	1180.4	1176.9	1171.5	1161.0	1148.6	1134.5	1120.5
25°	1161.0	1157.5	1152.2	1145.1	1139.9	1136.3	1129.3	1118.7	1104.7	1088.7	1074.7
27.5°	1104.7	1109.9	1106.4	1095.8	1090.5	1083.5	1081.8	1067.6	1055.3	1039.4	1023.6
30°	1050.0	1050.0	1044.7	1039.4	1030.6	1025.4	1018.3	1007.7	995.4	976.1	963.6
32.5°	981.3	979.6	972.5	970.7	963.6	953.2	951.3	937.2	924.9	910.8	894.9
35°	905.5	902.0	894.9	889.7	886.2	880.9	875.6	863.3	851.0	836.8	826.3
37.5°	819.2	819.2	817.5	808.6	805.2	801.6	796.3	784.0	776.9	762.8	752.3
40°	736.4	734.7	729.4	727.6	724.1	718.8	715.3	708.2	697.6	687.0	676.6
42.5°	655.4	657.1	650.1	651.8	644.8	641.3	639.5	628.9	623.7	613.1	604.3
45°	583.2	581.3	577.9	576.1	572.6	569.0	565.5	560.3	551.5	540.9	535.5
47.5°	516.2	510.9	510.9	509.1	507.4	500.3	498.6	493.3	488.0	477.4	470.4
50°	452.8	452.8	452.8	451.0	445.8	443.9	440.4	435.2	429.8	422.9	412.3
52.5°	401.7	401.7	401.7	400.0	392.9	391.1	389.4	382.3	375.2	370.0	362.9
55°	354.1	355.9	354.1	350.6	345.3	345.3	340.0	336.5	329.5	324.2	317.1
57.5°	313.6	313.6	310.1	308.3	304.7	303.0	299.5	296.0	287.2	281.8	273.1
60°	274.9	273.1	273.1	269.5	266.0	262.5	260.8	255.4	251.9	243.1	236.0
62.5°	239.6	239.6	236.0	236.0	229.0	229.0	227.3	222.0	216.7	207.9	204.4
65°	206.1	206.1	204.4	202.6	197.3	195.6	193.8	188.5	183.2	177.9	172.7
67.5°	176.2	176.2	172.7	170.9	167.3	165.6	162.1	158.6	153.2	148.0	142.7
70°	148.0	146.3	144.5	142.7	139.2	137.4	133.9	130.3	125.1	121.6	116.3
72.5°	119.8	119.8	118.0	114.5	112.8	111.0	109.2	105.7	100.5	95.1	91.6
75°	93.4	93.4	93.4	89.9	86.3	84.5	84.5	81.0	77.5	72.2	68.7
77.5°	72.2	70.5	68.7	68.7	65.2	63.5	61.6	59.9	54.6	52.9	49.3
80°	49.3	51.0	49.3	47.6	45.8	44.1	44.1	40.6	38.7	35.2	31.7
82.5°	33.5	31.7	31.7	30.0	30.0	28.1	28.1	24.7	22.9	21.2	19.4
85°	17.7	17.7	15.8	15.8	15.8	14.1	14.1	12.3	12.3	10.6	8.8
87.5°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	3.5	3.5	3.5
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°	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6
2.5°	1194.4	1190.9	1189.2	1189.2	1187.4	1185.7	1183.8	1182.1	1178.6	1178.6	1175.1
5°	1203.3	1199.8	1198.0	1192.7	1189.2	1189.2	1182.1	1180.4	1175.1	1171.5	1168.0
7.5°	1210.3	1203.3	1198.0	1192.7	1189.2	1185.7	1178.6	1171.5	1164.5	1157.5	1154.0
10°	1210.3	1203.3	1194.4	1185.7	1182.1	1178.6	1169.8	1159.2	1150.5	1143.4	1134.5
12.5°	1206.9	1196.3	1185.7	1178.6	1171.5	1166.3	1155.7	1145.1	1134.5	1120.5	1113.4
15°	1196.3	1182.1	1171.5	1159.2	1154.0	1145.1	1136.3	1120.5	1108.1	1095.8	1087.0
17.5°	1175.1	1157.5	1145.1	1132.8	1124.0	1118.7	1104.7	1090.5	1076.4	1062.3	1051.8
20°	1143.4	1127.6	1113.4	1097.6	1090.5	1083.5	1065.8	1051.8	1037.7	1021.8	1011.3
22.5°	1104.7	1088.7	1069.4	1057.1	1046.5	1037.7	1021.8	1006.0	991.9	977.8	963.6
25°	1057.1	1041.2	1023.6	1004.2	997.1	988.4	970.7	954.9	939.0	923.2	910.8
27.5°	1006.0	984.8	970.7	949.6	942.6	933.7	914.3	896.8	882.6	870.3	856.2
30°	944.3	928.4	909.1	889.7	882.6	873.9	857.9	842.1	828.1	813.9	799.8
32.5°	877.4	861.5	842.1	828.1	817.5	810.4	794.6	780.5	766.3	752.3	739.9
35°	806.9	789.2	775.2	761.1	752.3	743.4	727.6	715.3	704.7	692.4	680.0
37.5°	734.7	722.4	708.2	692.4	683.5	676.6	664.1	650.1	641.3	630.7	621.9
40°	664.1	650.1	637.7	623.7	616.6	611.3	599.0	588.4	579.6	570.8	565.5
42.5°	591.9	579.6	567.3	558.4	553.2	547.9	539.1	526.8	521.5	512.6	507.4
45°	525.0	514.5	505.6	493.3	489.7	486.2	475.7	466.8	461.6	456.2	452.8
47.5°	461.6	454.5	443.9	436.9	431.6	428.1	421.0	414.0	408.7	405.2	401.7
50°	406.9	398.1	391.1	384.0	380.5	375.2	368.2	364.7	361.1	357.6	357.6
52.5°	355.9	347.1	340.0	334.7	331.2	327.6	322.4	320.7	317.1	317.1	315.3
55°	308.3	303.0	296.0	288.9	287.2	285.4	281.8	278.3	276.6	274.9	276.6
57.5°	267.8	262.5	255.4	250.2	248.5	246.6	244.9	241.4	239.6	239.6	239.6
60°	230.8	225.6	220.2	215.0	215.0	211.4	209.6	207.9	206.1	204.4	204.4
62.5°	197.3	192.1	186.7	183.2	181.5	179.7	176.2	174.4	172.7	172.7	170.9
65°	167.3	160.3	158.6	153.2	151.5	149.8	148.0	144.5	142.7	140.9	139.2
67.5°	137.4	133.9	128.6	125.1	123.4	121.6	119.8	116.3	114.5	112.8	109.2
70°	111.0	107.4	103.9	100.5	98.7	96.9	93.4	89.9	88.1	84.5	79.3
72.5°	86.3	82.8	79.3	75.8	74.0	72.2	68.7	65.2	61.6	58.1	54.6
75°	65.2	61.6	56.4	52.9	51.0	51.0	45.8	42.3	38.7	33.5	30.0
77.5°	45.8	40.6	38.7	35.2	33.5	30.0	26.4	22.9	19.4	17.7	14.1
80°	30.0	26.4	22.9	21.2	19.4	17.7	15.8	12.3	8.8	7.1	5.2
82.5°	17.7	15.8	14.1	12.3	10.6	8.8	7.1	7.1	5.2	3.5	1.7
85°	8.8	7.1	5.2	5.2	3.5	3.5	3.5	1.7	1.7	1.7	1.7
87.5°	3.5	1.7	1.7	1.7	1.7	1.7	1.7	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°	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6
2.5°	1173.4	1171.5	1169.8	1168.0	1168.0	1164.5	1164.5	1162.8	1159.2	1157.5	1157.5
5°	1162.8	1157.5	1154.0	1152.2	1150.5	1145.1	1143.4	1139.9	1136.3	1132.8	1131.1
7.5°	1146.9	1138.1	1134.5	1132.8	1127.6	1122.2	1118.7	1113.4	1108.1	1102.8	1101.1
10°	1127.6	1118.7	1109.9	1106.4	1101.1	1097.6	1090.5	1083.5	1078.2	1072.9	1067.6
12.5°	1102.8	1092.3	1083.5	1080.0	1074.7	1067.6	1057.1	1053.5	1044.7	1041.2	1034.2
15°	1074.7	1062.3	1053.5	1048.3	1042.9	1032.3	1025.4	1018.3	1009.4	1006.0	999.0
17.5°	1039.4	1025.4	1016.5	1011.3	1007.7	999.0	988.4	979.6	970.7	967.2	961.9
20°	997.1	988.4	976.1	970.7	967.2	956.7	946.1	942.6	935.5	928.4	923.2
22.5°	949.6	940.7	928.4	923.2	921.4	912.6	903.8	898.5	893.2	887.9	882.6
25°	900.3	889.7	879.1	875.6	872.0	865.0	857.9	854.5	849.2	845.6	842.1
27.5°	847.4	836.8	828.1	822.7	819.2	813.9	810.4	806.9	803.4	799.8	798.1
30°	791.1	780.5	773.4	769.9	766.3	764.6	759.3	757.6	755.7	752.3	754.0
32.5°	734.7	725.9	718.8	713.5	713.5	709.9	708.2	708.2	706.4	706.4	706.4
35°	673.0	667.7	662.4	660.6	658.9	657.1	655.4	657.1	655.4	657.1	658.9
37.5°	616.6	611.3	607.8	606.0	604.3	606.0	604.3	604.3	606.0	609.6	611.3
40°	558.4	554.9	551.5	553.2	551.5	551.5	551.5	556.7	558.4	560.3	562.0
42.5°	503.9	500.3	498.6	498.6	500.3	498.6	502.2	503.9	507.4	512.6	516.2
45°	451.0	449.3	449.3	451.0	449.3	452.8	452.8	456.2	461.6	465.1	468.7
47.5°	401.7	401.7	401.7	403.4	403.4	405.2	408.7	410.5	414.0	417.5	421.0
50°	355.9	357.6	359.4	359.4	359.4	362.9	366.5	368.2	370.0	371.7	377.1
52.5°	315.3	317.1	317.1	318.9	320.7	322.4	324.2	327.6	329.5	333.0	334.7
55°	276.6	276.6	280.1	281.8	281.8	281.8	285.4	285.4	288.9	290.7	294.2
57.5°	239.6	241.4	241.4	243.1	243.1	244.9	246.6	248.5	250.2	251.9	253.7
60°	204.4	204.4	204.4	206.1	207.9	209.6	207.9	211.4	211.4	215.0	216.7
62.5°	170.9	172.7	172.7	172.7	172.7	172.7	172.7	174.4	176.2	177.9	179.7
65°	139.2	139.2	139.2	137.4	139.2	137.4	139.2	140.9	140.9	142.7	144.5
67.5°	107.4	107.4	103.9	103.9	105.7	105.7	105.7	105.7	103.9	107.4	107.4
70°	77.5	75.8	74.0	72.2	72.2	70.5	70.5	68.7	68.7	68.7	68.7
72.5°	51.0	47.6	44.1	42.3	40.6	40.6	37.0	35.2	37.0	37.0	37.0
75°	26.4	22.9	21.2	19.4	17.7	17.7	15.8	15.8	15.8	15.8	15.8
77.5°	10.6	8.8	7.1	7.1	5.2	5.2	5.2	5.2	5.2	5.2	5.2
80°	3.5	3.5	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
82.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
85°	1.7	0.0	0.0	1.7	0.0	1.7	1.7	1.7	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: P593649

CATALOG NUMBER: HC825D010-HM82555950-81WWBB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6	1178.6
2.5°	1155.7	1155.7	1154.0	1155.7	1152.2	1154.0	1152.2	1152.2
5°	1129.3	1125.7	1125.7	1125.7	1124.0	1124.0	1122.2	1122.2
7.5°	1097.6	1095.8	1094.1	1092.3	1090.5	1088.7	1088.7	1088.7
10°	1065.8	1062.3	1062.3	1060.6	1057.1	1055.3	1055.3	1055.3
12.5°	1028.9	1027.1	1025.4	1025.4	1018.3	1020.0	1018.3	1018.3
15°	993.6	991.9	991.9	986.5	983.0	983.0	983.0	981.3
17.5°	956.7	954.9	953.2	949.6	946.1	946.1	944.3	946.1
20°	917.8	916.1	912.6	912.6	910.8	909.1	905.5	907.3
22.5°	879.1	875.6	873.9	873.9	872.0	872.0	868.5	868.5
25°	838.6	836.8	835.0	836.8	833.3	833.3	829.8	829.8
27.5°	796.3	794.6	794.6	794.6	792.8	794.6	792.8	792.8
30°	754.0	754.0	752.3	752.3	754.0	752.3	754.0	755.7
32.5°	708.2	708.2	709.9	709.9	711.8	711.8	711.8	711.8
35°	660.6	664.1	664.1	666.0	667.7	669.5	669.5	671.2
37.5°	616.6	618.4	620.2	621.9	625.4	625.4	625.4	625.4
40°	569.0	570.8	574.4	572.6	579.6	581.3	579.6	579.6
42.5°	519.7	523.2	525.0	528.6	530.3	533.8	535.5	535.5
45°	473.9	475.7	479.1	482.7	484.5	489.7	489.7	489.7
47.5°	426.4	429.8	431.6	435.2	436.9	442.2	443.9	442.2
50°	380.5	384.0	387.6	387.6	392.9	394.6	398.1	400.0
52.5°	336.5	338.2	341.8	343.6	347.1	350.6	352.4	354.1
55°	294.2	296.0	299.5	299.5	304.7	306.6	310.1	310.1
57.5°	255.4	257.2	260.8	258.9	262.5	266.0	266.0	264.3
60°	218.5	218.5	218.5	222.0	223.7	225.6	227.3	227.3
62.5°	179.7	183.2	185.0	185.0	186.7	188.5	188.5	186.7
65°	144.5	148.0	149.8	149.8	151.5	151.5	151.5	153.2
67.5°	109.2	109.2	109.2	111.0	109.2	109.2	109.2	109.2
70°	68.7	68.7	68.7	68.7	67.0	68.7	68.7	70.5
72.5°	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0
75°	15.8	15.8	15.8	17.7	15.8	15.8	15.8	15.8
77.5°	7.1	5.2	7.1	7.1	5.2	5.2	5.2	5.2
80°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
82.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
85°	0.0	1.7	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)