

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: P584149

Luminaire Tested: **HC825D010-HM82555835-81WWWB**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584149  
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: HC825D010-HM82555835-81WWWB  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2420.4 lumens  
Efficiency: N/A  
Efficacy: 90.3 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

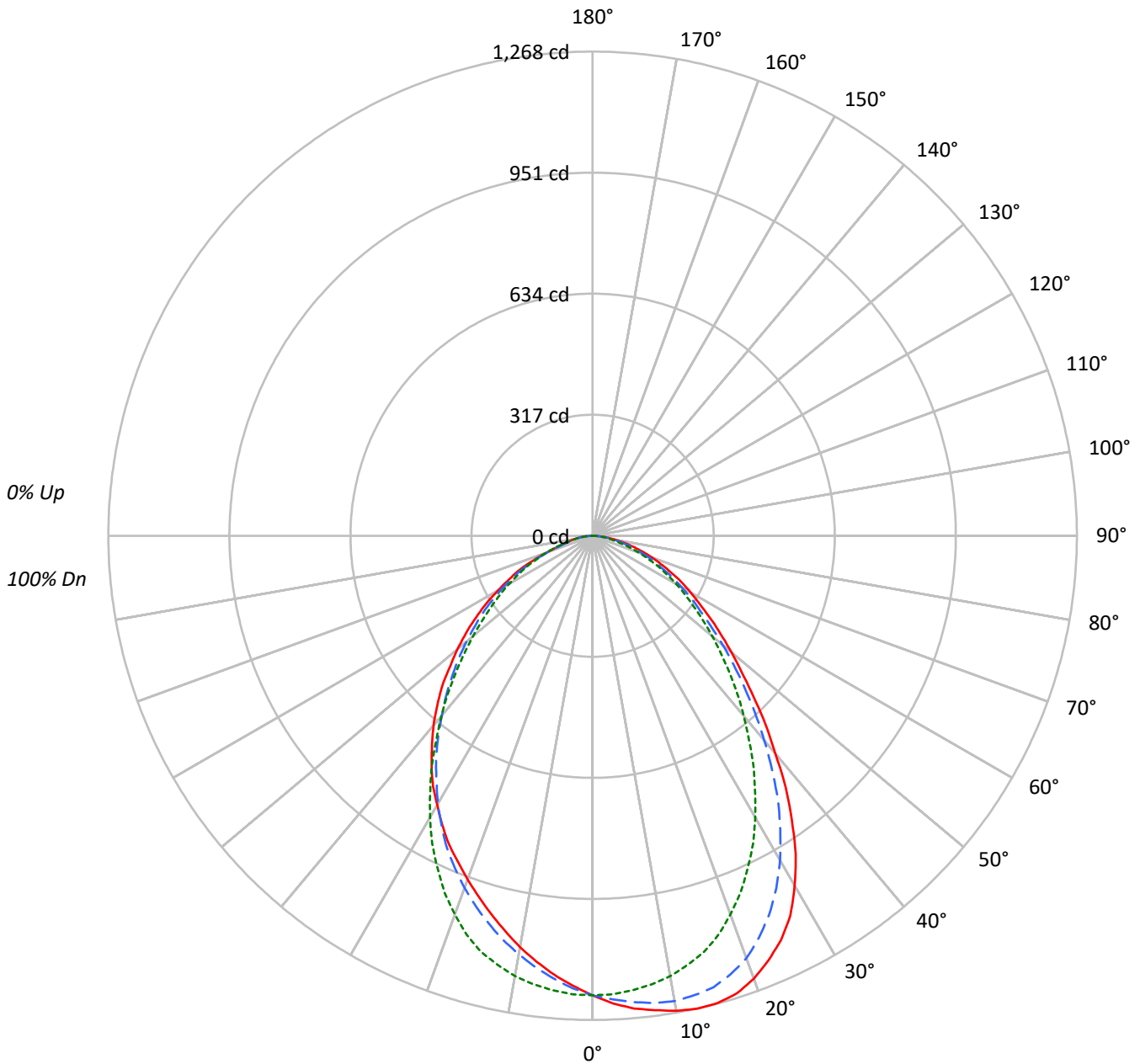
Input Watts (W): 26.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	37108	37108	37108
5°	38467	36987	35718
10°	39553	36663	34255
15°	40438	36017	32741
20°	40497	34610	31411
25°	39723	32684	30302
30°	37675	30312	28970
35°	34234	27608	27672
40°	29929	24772	26081
45°	25943	22066	24303
50°	22715	19597	22139
55°	20220	17365	20037
60°	18237	15597	17608
65°	16468	13717	15345
70°	14795	11558	11405
75°	13034	9162	8554
80°	10921	7583	8186
85°	8491	6652	7253



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	113.5	4.7
10°-20°	319.8	13.2
20°-30°	457.0	18.9
30°-40°	485.6	20.1
40°-50°	418.1	17.3
50°-60°	312.6	12.9
60°-70°	199.4	8.2
70°-80°	90.7	3.7
80°-90°	23.8	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°	890.3	36.8
0°-40°	1375.8	56.8
0°-60°	2106.5	87.0
0°-90°	2420.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2420.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1203	1203	1203	1203	1203	
5°	1243	1226	1195	1164	1154	119
15°	1267	1224	1128	1051	1026	357
25°	1168	1094	961	902	891	534
35°	909	846	733	714	735	566
45°	595	562	506	520	557	462
55°	376	345	323	350	373	338
65°	226	200	188	197	210	225
75°	109	94	77	70	72	116
85°	24	20	19	20	20	29
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°	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4
2.5°	1225.7	1222.3	1224.0	1222.3	1224.0	1224.0	1220.5	1220.5	1220.5	1220.5	1215.4
5°	1242.7	1241.0	1241.0	1239.3	1237.6	1239.3	1237.6	1235.9	1232.4	1230.7	1225.7
7.5°	1253.0	1253.0	1253.0	1253.0	1251.3	1249.5	1247.8	1244.4	1241.0	1237.6	1234.1
10°	1263.2	1265.0	1263.2	1261.5	1259.8	1256.4	1254.7	1251.3	1246.1	1241.0	1237.6
12.5°	1268.4	1268.4	1266.7	1266.7	1263.2	1261.5	1256.4	1251.3	1246.1	1241.0	1232.4
15°	1266.7	1266.7	1265.0	1263.2	1258.1	1256.4	1253.0	1247.8	1239.3	1232.4	1224.0
17.5°	1256.4	1254.7	1251.3	1251.3	1244.4	1242.7	1239.3	1232.4	1224.0	1213.7	1203.4
20°	1234.1	1234.1	1232.4	1230.7	1224.0	1218.8	1215.4	1206.9	1200.0	1188.0	1177.7
22.5°	1203.4	1206.9	1203.4	1200.0	1191.4	1189.7	1184.6	1174.3	1164.1	1150.5	1138.5
25°	1167.5	1165.8	1164.1	1160.6	1153.9	1150.5	1143.6	1133.3	1123.1	1107.7	1094.0
27.5°	1121.4	1114.5	1114.5	1107.7	1102.5	1097.4	1094.0	1083.8	1070.1	1058.1	1041.0
30°	1058.1	1059.8	1051.3	1049.6	1041.0	1037.6	1030.7	1020.5	1008.6	994.9	981.2
32.5°	989.8	984.6	984.6	977.8	970.9	965.8	964.1	952.1	941.9	928.2	914.5
35°	909.4	909.4	904.3	902.5	895.7	892.3	887.1	880.3	868.4	856.4	846.2
37.5°	830.7	827.3	825.6	822.2	817.1	811.9	811.9	800.0	798.3	784.6	770.9
40°	743.5	747.0	743.5	738.4	736.8	733.4	731.7	724.8	719.7	707.7	699.1
42.5°	670.0	666.7	666.7	665.0	658.2	658.2	654.7	651.3	642.7	639.3	629.1
45°	594.9	598.2	593.2	594.9	588.1	588.1	588.1	581.2	574.4	569.2	562.4
47.5°	529.9	531.6	531.6	526.4	524.8	524.8	521.4	518.0	512.9	506.0	500.9
50°	473.5	475.2	471.8	470.1	466.6	464.9	464.9	458.1	454.8	447.9	444.5
52.5°	422.2	422.2	420.5	420.5	415.4	415.4	412.0	406.8	403.4	400.0	391.4
55°	376.1	376.1	374.4	372.7	372.7	367.5	365.8	360.7	357.3	350.4	345.3
57.5°	331.6	333.3	331.6	329.9	328.2	326.5	323.0	317.9	314.6	309.4	306.0
60°	295.7	295.7	294.0	292.3	288.9	287.2	285.5	282.1	276.9	273.5	268.4
62.5°	261.5	259.8	258.1	256.4	252.9	252.9	249.5	246.1	241.1	237.6	234.2
65°	225.7	225.7	224.0	224.0	222.2	218.8	217.1	215.4	208.5	206.8	200.0
67.5°	193.1	194.8	191.4	191.4	188.0	188.0	186.3	181.2	179.4	176.0	172.7
70°	164.1	164.1	164.1	162.4	159.0	157.3	155.6	152.2	150.4	147.0	143.6
72.5°	135.0	135.0	133.3	133.3	131.6	129.9	128.2	124.8	124.8	121.3	117.9
75°	109.4	109.4	107.6	105.9	104.3	104.3	102.6	100.9	97.5	95.8	94.1
77.5°	83.8	83.8	83.8	82.1	80.4	80.4	80.4	76.9	73.5	73.5	71.8
80°	61.5	61.5	59.8	59.8	58.1	58.1	58.1	56.4	54.7	53.0	51.3
82.5°	41.0	41.0	41.0	41.0	39.3	39.3	39.3	37.6	35.8	35.8	35.8
85°	24.0	24.0	24.0	24.0	22.3	22.3	22.3	22.3	22.3	20.5	20.5
87.5°	10.3	8.6	10.3	8.6	10.3	8.6	10.3	8.6	8.6	8.6	8.6
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°	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4
2.5°	1217.1	1215.4	1213.7	1212.0	1212.0	1210.3	1206.9	1205.1	1203.4	1201.7	1201.7
5°	1224.0	1222.3	1218.8	1215.4	1213.7	1210.3	1206.9	1203.4	1200.0	1194.9	1193.2
7.5°	1229.0	1224.0	1220.5	1213.7	1212.0	1208.6	1203.4	1198.3	1191.4	1184.6	1179.5
10°	1229.0	1222.3	1217.1	1208.6	1205.1	1201.7	1194.9	1186.3	1177.7	1170.9	1162.3
12.5°	1225.7	1217.1	1208.6	1200.0	1194.9	1189.7	1179.5	1170.9	1160.6	1150.5	1143.6
15°	1213.7	1203.4	1193.2	1182.9	1177.7	1170.9	1160.6	1148.8	1138.5	1128.2	1116.2
17.5°	1191.4	1181.2	1169.2	1157.3	1150.5	1145.3	1129.9	1121.4	1106.0	1095.7	1085.5
20°	1162.3	1150.5	1135.1	1123.1	1114.5	1109.4	1097.4	1082.1	1070.1	1054.7	1044.4
22.5°	1124.8	1109.4	1094.0	1082.1	1073.5	1066.7	1051.3	1035.9	1025.6	1012.0	1000.0
25°	1080.4	1065.0	1049.6	1032.4	1023.9	1017.1	1003.4	989.8	976.1	960.6	950.4
27.5°	1027.3	1010.3	996.6	981.2	972.6	962.4	947.1	933.4	919.7	909.4	895.7
30°	969.2	950.4	936.8	921.4	912.8	904.3	888.8	875.3	863.3	851.3	844.4
32.5°	899.1	885.4	871.8	856.4	849.6	844.4	829.0	815.3	801.8	791.5	786.3
35°	832.5	817.1	805.2	791.5	782.9	777.8	764.1	752.1	745.3	733.4	726.5
37.5°	762.4	750.4	736.8	723.1	718.0	712.8	702.6	690.6	680.3	671.7	668.3
40°	688.9	678.6	666.7	658.2	653.0	647.9	639.3	630.8	623.9	615.4	611.9
42.5°	618.8	611.9	601.7	591.5	586.4	584.6	574.4	567.5	564.1	560.7	557.3
45°	555.5	545.3	538.4	531.6	526.4	523.1	518.0	512.9	509.4	506.0	502.6
47.5°	494.0	485.5	478.6	473.5	468.3	466.6	463.2	458.1	454.8	454.8	454.8
50°	437.6	430.8	423.9	420.5	418.8	415.4	412.0	410.2	408.5	408.5	408.5
52.5°	388.0	381.2	376.1	372.7	372.7	369.3	365.8	364.1	364.1	364.1	364.1
55°	341.9	336.7	333.3	329.9	326.5	324.7	324.7	324.7	323.0	323.0	324.7
57.5°	300.9	297.5	292.3	288.9	287.2	287.2	285.5	283.8	285.5	287.2	288.9
60°	263.2	259.8	258.1	252.9	252.9	252.9	251.2	251.2	251.2	252.9	254.7
62.5°	229.1	227.4	224.0	222.2	220.5	220.5	218.8	218.8	218.8	218.8	220.5
65°	198.3	194.8	191.4	191.4	191.4	189.7	189.7	186.3	188.0	188.0	186.3
67.5°	169.3	165.9	164.1	162.4	160.7	160.7	159.0	157.3	155.6	155.6	155.6
70°	141.9	138.5	138.5	135.0	135.0	133.3	131.6	131.6	129.9	128.2	126.5
72.5°	114.5	112.8	111.1	109.4	109.4	109.4	107.6	105.9	104.3	102.6	99.2
75°	90.6	90.6	87.2	85.5	85.5	83.8	82.1	80.4	78.6	76.9	75.2
77.5°	70.1	68.4	64.9	63.2	63.2	63.2	61.5	59.8	58.1	56.4	54.7
80°	51.3	49.5	47.8	46.1	46.1	46.1	44.4	44.4	42.7	42.7	42.7
82.5°	34.2	34.2	32.5	32.5	32.5	32.5	30.8	30.8	30.8	30.8	30.8
85°	20.5	20.5	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8
87.5°	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
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°	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4
2.5°	1198.3	1198.3	1194.9	1193.2	1191.4	1193.2	1189.7	1188.0	1186.3	1186.3	1184.6
5°	1188.0	1186.3	1179.5	1177.7	1176.0	1174.3	1170.9	1167.5	1164.1	1162.3	1160.6
7.5°	1174.3	1169.2	1162.3	1160.6	1158.9	1153.9	1148.8	1145.3	1140.2	1138.5	1135.1
10°	1155.6	1148.8	1143.6	1138.5	1135.1	1129.9	1124.8	1119.6	1112.8	1111.1	1106.0
12.5°	1133.3	1124.8	1114.5	1112.8	1107.7	1100.8	1094.0	1088.8	1083.8	1080.4	1075.2
15°	1106.0	1097.4	1087.2	1082.1	1077.0	1071.8	1063.3	1056.4	1051.3	1046.1	1041.0
17.5°	1073.5	1063.3	1054.7	1049.6	1046.1	1037.6	1030.7	1022.2	1017.1	1012.0	1006.9
20°	1034.2	1025.6	1013.7	1008.6	1006.9	1000.0	991.5	988.0	981.2	976.1	972.6
22.5°	989.8	981.2	970.9	967.5	960.6	957.2	948.7	945.3	941.9	936.8	935.1
25°	940.2	931.6	923.1	921.4	916.2	912.8	907.7	902.5	902.5	897.4	897.4
27.5°	888.8	880.3	873.5	870.1	868.4	865.0	859.9	858.1	856.4	854.7	854.7
30°	834.2	823.9	820.5	818.8	817.1	813.6	811.9	808.5	810.2	811.9	810.2
32.5°	776.1	772.6	765.8	762.4	764.1	762.4	759.0	762.4	760.7	764.1	765.8
35°	719.7	716.3	712.8	712.8	709.4	709.4	709.4	711.1	714.5	716.3	719.7
37.5°	665.0	659.9	658.2	656.4	658.2	658.2	658.2	661.6	665.0	668.3	673.5
40°	606.8	603.4	603.4	603.4	603.4	608.5	606.8	610.2	613.6	618.8	623.9
42.5°	552.1	552.1	553.8	553.8	553.8	553.8	557.3	562.4	567.5	572.7	577.8
45°	500.9	500.9	500.9	504.3	504.3	506.0	512.9	516.3	519.7	524.8	529.9
47.5°	453.0	453.0	454.8	456.4	458.1	461.5	464.9	470.1	475.2	478.6	483.7
50°	408.5	410.2	413.7	417.1	417.1	418.8	423.9	427.4	430.8	435.9	437.6
52.5°	365.8	369.3	372.7	374.4	376.1	379.5	381.2	386.3	388.0	393.1	394.8
55°	326.5	328.2	333.3	335.0	335.0	338.4	341.9	345.3	350.4	350.4	353.8
57.5°	290.6	292.3	295.7	297.5	295.7	300.9	302.6	306.0	307.7	311.2	312.9
60°	254.7	258.1	259.8	259.8	261.5	263.2	266.6	266.6	270.1	273.5	273.5
62.5°	220.5	222.2	224.0	225.7	227.4	225.7	230.8	230.8	234.2	235.9	239.4
65°	188.0	189.7	189.7	191.4	191.4	193.1	193.1	194.8	196.6	200.0	201.7
67.5°	155.6	155.6	155.6	157.3	155.6	157.3	157.3	159.0	159.0	162.4	164.1
70°	126.5	124.8	123.0	123.0	123.0	123.0	121.3	123.0	123.0	124.8	124.8
72.5°	97.5	95.8	94.1	92.3	92.3	90.6	88.9	90.6	90.6	92.3	92.3
75°	73.5	70.1	70.1	70.1	68.4	68.4	68.4	70.1	70.1	70.1	71.8
77.5°	54.7	54.7	53.0	53.0	53.0	54.7	54.7	56.4	56.4	56.4	56.4
80°	41.0	42.7	42.7	42.7	42.7	44.4	44.4	44.4	44.4	46.1	46.1
82.5°	30.8	30.8	30.8	30.8	32.5	32.5	32.5	32.5	32.5	32.5	32.5
85°	18.8	20.5	20.5	18.8	20.5	20.5	20.5	20.5	20.5	20.5	20.5
87.5°	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
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: P584149

CATALOG NUMBER: HC825D010-HM82555835-81WWWB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4	1203.4
2.5°	1182.9	1182.9	1182.9	1182.9	1181.2	1181.2	1181.2	1179.5
5°	1157.3	1157.3	1157.3	1153.9	1155.6	1155.6	1152.2	1153.9
7.5°	1131.6	1129.9	1128.2	1128.2	1126.5	1124.8	1123.1	1124.8
10°	1102.5	1097.4	1097.4	1095.7	1095.7	1092.3	1092.3	1094.0
12.5°	1070.1	1066.7	1066.7	1065.0	1063.3	1061.5	1059.8	1059.8
15°	1037.6	1034.2	1032.4	1030.7	1029.0	1025.6	1027.3	1025.6
17.5°	1005.2	1000.0	1000.0	998.3	996.6	993.2	993.2	991.5
20°	967.5	965.8	962.4	964.1	962.4	958.9	957.2	957.2
22.5°	929.9	929.9	928.2	928.2	926.5	924.8	923.1	923.1
25°	894.0	892.3	894.0	894.0	888.8	888.8	888.8	890.6
27.5°	853.0	854.7	853.0	853.0	853.0	853.0	854.7	853.0
30°	811.9	811.9	811.9	813.6	817.1	815.3	815.3	813.6
32.5°	767.5	769.2	769.2	770.9	772.6	776.1	776.1	777.8
35°	723.1	726.5	728.2	726.5	731.7	731.7	735.1	735.1
37.5°	676.9	678.6	682.0	683.7	687.2	688.9	690.6	690.6
40°	627.3	634.2	635.9	637.6	642.7	642.7	644.5	647.9
42.5°	581.2	588.1	589.8	591.5	594.9	599.9	598.2	601.7
45°	536.7	541.8	543.6	545.3	550.4	552.1	552.1	557.3
47.5°	488.9	492.3	494.0	497.4	500.9	504.3	507.7	506.0
50°	441.1	446.2	449.6	451.3	456.4	458.1	459.8	461.5
52.5°	398.3	401.7	403.4	405.1	410.2	412.0	413.7	417.1
55°	357.3	359.0	362.4	360.7	365.8	367.5	369.3	372.7
57.5°	316.2	317.9	319.6	319.6	323.0	326.5	328.2	329.9
60°	276.9	280.3	282.1	282.1	282.1	285.5	285.5	285.5
62.5°	241.1	241.1	242.8	242.8	246.1	246.1	246.1	246.1
65°	203.4	205.1	206.8	206.8	210.3	208.5	212.0	210.3
67.5°	164.1	164.1	167.6	167.6	165.9	167.6	167.6	167.6
70°	124.8	124.8	126.5	126.5	126.5	126.5	126.5	126.5
72.5°	92.3	92.3	92.3	94.1	92.3	92.3	94.1	92.3
75°	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8
77.5°	56.4	56.4	58.1	58.1	58.1	58.1	58.1	58.1
80°	46.1	46.1	46.1	46.1	47.8	46.1	46.1	46.1
82.5°	34.2	32.5	34.2	32.5	34.2	34.2	34.2	34.2
85°	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
87.5°	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
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)