

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: P584317

Luminaire Tested: **HC830D010-HM82555927-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584317
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: HC830D010-HM82555927-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2232.1 lumens
Efficiency: N/A
Efficacy: 79.7 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

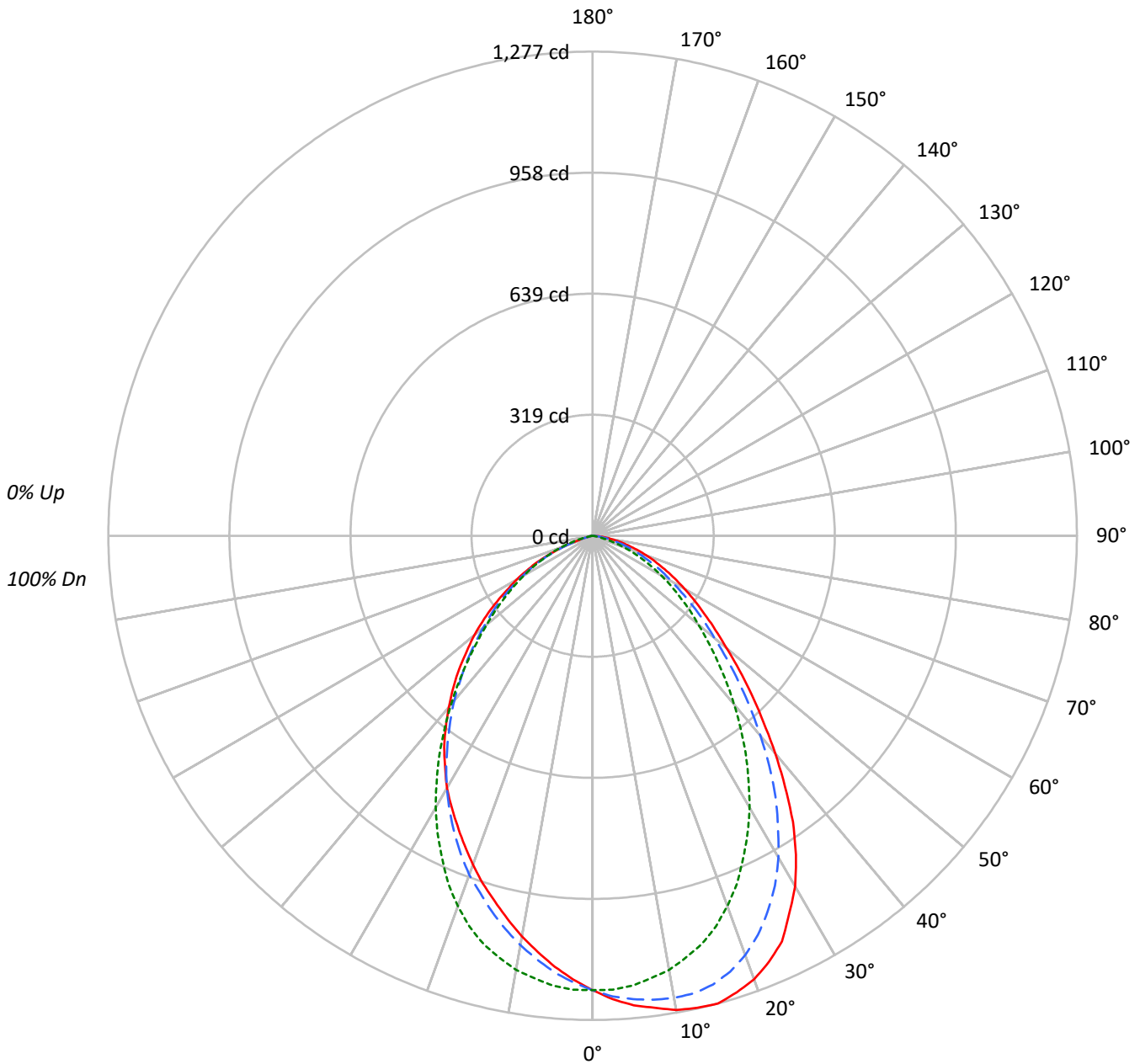
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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°	36954	36954	36954
5°	38479	36869	35319
10°	39766	36400	33598
15°	40770	35567	31851
20°	40852	34092	30272
25°	40162	31935	28706
30°	38014	29465	27364
35°	34655	26502	25692
40°	30138	23363	23722
45°	25860	20230	21717
50°	22087	17443	19506
55°	19354	15021	16946
60°	17231	12816	14246
65°	15293	10456	11375
70°	13560	7754	6464
75°	11307	4051	1930
80°	8914	1261	320
85°	6369	637	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.9	5.1
10°-20°	316.5	14.2
20°-30°	447.9	20.1
30°-40°	468.6	21.0
40°-50°	390.9	17.5
50°-60°	277.2	12.4
60°-70°	159.6	7.2
70°-80°	51.4	2.3
80°-90°	7.1	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°	877.3	39.3
0°-40°	1346.0	60.3
0°-60°	2014.0	90.2
0°-90°	2232.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2232.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1198	1198	1198	1198	1198	
5°	1243	1227	1191	1155	1141	119
15°	1277	1225	1114	1026	998	359
25°	1180	1093	939	863	844	539
35°	921	840	704	666	682	571
45°	593	545	464	469	498	459
55°	360	322	279	294	315	325
65°	210	176	143	143	156	209
75°	95	70	34	16	16	103
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°	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4
2.5°	1223.4	1221.6	1219.8	1221.6	1219.8	1221.6	1219.8	1219.8	1218.0	1216.2	1216.2
5°	1243.1	1241.3	1241.3	1241.3	1239.5	1237.7	1237.7	1236.0	1232.4	1230.6	1227.0
7.5°	1255.7	1257.5	1257.5	1257.5	1253.9	1253.9	1250.2	1246.7	1243.1	1239.5	1234.2
10°	1270.0	1270.0	1268.2	1266.4	1262.8	1261.1	1259.3	1255.7	1250.2	1243.1	1237.7
12.5°	1275.3	1275.3	1273.5	1270.0	1268.2	1266.4	1264.6	1259.3	1252.0	1243.1	1236.0
15°	1277.1	1273.5	1271.8	1270.0	1266.4	1261.1	1261.1	1253.9	1244.9	1234.2	1225.3
17.5°	1262.8	1264.6	1261.1	1257.5	1252.0	1248.4	1243.1	1237.7	1227.0	1214.4	1205.5
20°	1244.9	1243.1	1241.3	1236.0	1228.8	1227.0	1221.6	1212.7	1203.7	1189.4	1176.9
22.5°	1216.2	1214.4	1210.9	1207.3	1200.2	1196.5	1191.1	1180.4	1167.8	1153.6	1139.2
25°	1180.4	1176.9	1171.5	1164.3	1158.9	1155.4	1148.2	1137.4	1123.1	1107.0	1092.7
27.5°	1123.1	1128.5	1124.9	1114.1	1108.7	1101.6	1099.8	1085.4	1073.0	1056.8	1040.7
30°	1067.6	1067.6	1062.3	1056.8	1047.9	1042.5	1035.4	1024.6	1012.1	992.3	979.9
32.5°	997.7	995.9	988.8	987.0	979.9	969.0	967.3	953.0	940.4	926.1	909.9
35°	920.6	917.1	909.9	904.6	901.0	895.7	890.2	877.7	865.1	850.8	840.1
37.5°	832.9	832.9	831.1	822.2	818.6	815.1	809.6	797.1	790.0	775.6	764.9
40°	748.7	746.9	741.6	739.8	736.2	730.9	727.2	720.1	709.4	698.5	687.8
42.5°	666.3	668.1	661.0	662.7	655.6	652.0	650.3	639.4	634.1	623.4	614.4
45°	593.0	591.1	587.5	585.7	582.1	578.6	575.0	569.6	560.6	549.9	544.6
47.5°	524.8	519.5	519.5	517.7	515.9	508.7	506.9	501.5	496.2	485.5	478.2
50°	460.4	460.4	460.4	458.6	453.1	451.3	447.8	442.4	437.1	429.9	419.1
52.5°	408.4	408.4	408.4	406.6	399.5	397.6	395.8	388.7	381.6	376.2	368.9
55°	360.0	361.8	360.0	356.5	351.1	351.1	345.8	342.1	334.9	329.6	322.5
57.5°	318.9	318.9	315.2	313.4	309.9	308.1	304.5	300.9	292.0	286.5	277.6
60°	279.4	277.6	277.6	274.1	270.5	266.9	265.1	259.7	256.1	247.2	240.1
62.5°	243.6	243.6	240.1	240.1	232.8	232.8	231.0	225.7	220.3	211.4	207.8
65°	209.6	209.6	207.8	205.9	200.6	198.8	197.0	191.7	186.3	181.0	175.5
67.5°	179.2	179.2	175.5	173.7	170.1	168.4	164.8	161.2	155.9	150.4	145.1
70°	150.4	148.6	146.8	145.1	141.5	139.7	136.1	132.6	127.2	123.5	118.2
72.5°	121.8	121.8	120.0	116.4	114.6	112.8	111.1	107.5	102.1	96.8	93.1
75°	94.9	94.9	94.9	91.3	87.7	86.0	86.0	82.4	78.8	73.5	69.9
77.5°	73.5	71.7	69.9	69.9	66.2	64.4	62.7	60.9	55.5	53.7	50.2
80°	50.2	52.0	50.2	48.4	46.6	44.8	44.8	41.1	39.4	35.8	32.2
82.5°	34.0	32.2	32.2	30.4	30.4	28.7	28.7	25.1	23.3	21.5	19.7
85°	18.0	18.0	16.2	16.2	16.2	14.4	14.4	12.5	12.5	10.7	8.9
87.5°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	3.6	3.6	3.6
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°	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4
2.5°	1214.4	1210.9	1209.1	1209.1	1207.3	1205.5	1203.7	1202.0	1198.4	1198.4	1194.7
5°	1223.4	1219.8	1218.0	1212.7	1209.1	1209.1	1202.0	1200.2	1194.7	1191.1	1187.6
7.5°	1230.6	1223.4	1218.0	1212.7	1209.1	1205.5	1198.4	1191.1	1184.0	1176.9	1173.3
10°	1230.6	1223.4	1214.4	1205.5	1202.0	1198.4	1189.4	1178.7	1169.6	1162.5	1153.6
12.5°	1227.0	1216.2	1205.5	1198.4	1191.1	1185.8	1175.1	1164.3	1153.6	1139.2	1132.0
15°	1216.2	1202.0	1191.1	1178.7	1173.3	1164.3	1155.4	1139.2	1126.7	1114.1	1105.2
17.5°	1194.7	1176.9	1164.3	1151.8	1142.9	1137.4	1123.1	1108.7	1094.5	1080.1	1069.4
20°	1162.5	1146.4	1132.0	1116.0	1108.7	1101.6	1083.7	1069.4	1055.0	1038.9	1028.1
22.5°	1123.1	1107.0	1087.2	1074.7	1064.0	1055.0	1038.9	1022.8	1008.5	994.1	979.9
25°	1074.7	1058.6	1040.7	1021.0	1013.9	1004.9	987.0	970.8	954.8	938.6	926.1
27.5°	1022.8	1001.3	987.0	965.5	958.3	949.3	929.7	911.7	897.5	884.9	870.6
30°	960.1	943.9	924.3	904.6	897.5	888.4	872.4	856.2	841.9	827.5	813.3
32.5°	892.0	875.9	856.2	841.9	831.1	824.0	807.8	793.5	779.2	764.9	752.3
35°	820.4	802.5	788.2	773.8	764.9	755.8	739.8	727.2	716.5	704.0	691.4
37.5°	746.9	734.4	720.1	704.0	695.0	687.8	675.4	661.0	652.0	641.2	632.3
40°	675.4	661.0	648.5	634.1	627.0	621.6	609.0	598.3	589.3	580.4	575.0
42.5°	601.9	589.3	576.8	567.9	562.4	557.0	548.1	535.5	530.2	521.3	515.9
45°	533.7	523.0	514.1	501.5	498.0	494.4	483.7	474.6	469.3	463.9	460.4
47.5°	469.3	462.2	451.3	444.2	438.9	435.3	428.2	420.9	415.6	412.0	408.4
50°	413.8	404.9	397.6	390.5	386.9	381.6	374.4	370.7	367.2	363.6	363.6
52.5°	361.8	352.9	345.8	340.3	336.7	333.2	327.8	326.0	322.5	322.5	320.7
55°	313.4	308.1	300.9	293.8	292.0	290.2	286.5	283.0	281.2	279.4	281.2
57.5°	272.3	266.9	259.7	254.3	252.5	250.8	249.0	245.4	243.6	243.6	243.6
60°	234.7	229.2	223.9	218.5	218.5	215.0	213.2	211.4	209.6	207.8	207.8
62.5°	200.6	195.2	189.9	186.3	184.5	182.7	179.2	177.3	175.5	175.5	173.7
65°	170.1	163.0	161.2	155.9	154.1	152.3	150.4	146.8	145.1	143.3	141.5
67.5°	139.7	136.1	130.8	127.2	125.4	123.5	121.8	118.2	116.4	114.6	111.1
70°	112.8	109.3	105.7	102.1	100.4	98.6	94.9	91.3	89.5	86.0	80.6
72.5°	87.7	84.2	80.6	77.0	75.3	73.5	69.9	66.2	62.7	59.1	55.5
75°	66.2	62.7	57.3	53.7	52.0	52.0	46.6	43.0	39.4	34.0	30.4
77.5°	46.6	41.1	39.4	35.8	34.0	30.4	26.9	23.3	19.7	18.0	14.4
80°	30.4	26.9	23.3	21.5	19.7	18.0	16.2	12.5	8.9	7.1	5.4
82.5°	18.0	16.2	14.4	12.5	10.7	8.9	7.1	7.1	5.4	3.6	1.8
85°	8.9	7.1	5.4	5.4	3.6	3.6	3.6	1.8	1.8	1.8	1.8
87.5°	3.6	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°	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4
2.5°	1192.9	1191.1	1189.4	1187.6	1187.6	1184.0	1184.0	1182.2	1178.7	1176.9	1176.9
5°	1182.2	1176.9	1173.3	1171.5	1169.6	1164.3	1162.5	1158.9	1155.4	1151.8	1150.0
7.5°	1166.1	1157.1	1153.6	1151.8	1146.4	1141.0	1137.4	1132.0	1126.7	1121.3	1119.6
10°	1146.4	1137.4	1128.5	1124.9	1119.6	1116.0	1108.7	1101.6	1096.3	1090.9	1085.4
12.5°	1121.3	1110.5	1101.6	1098.0	1092.7	1085.4	1074.7	1071.2	1062.3	1058.6	1051.4
15°	1092.7	1080.1	1071.2	1065.8	1060.5	1049.6	1042.5	1035.4	1026.3	1022.8	1015.6
17.5°	1056.8	1042.5	1033.6	1028.1	1024.6	1015.6	1004.9	995.9	987.0	983.4	978.1
20°	1013.9	1004.9	992.3	987.0	983.4	972.6	961.9	958.3	951.2	943.9	938.6
22.5°	965.5	956.6	943.9	938.6	936.8	927.9	918.9	913.5	908.2	902.8	897.5
25°	915.3	904.6	893.8	890.2	886.6	879.5	872.4	868.8	863.3	859.8	856.2
27.5°	861.5	850.8	841.9	836.5	832.9	827.5	824.0	820.4	816.8	813.3	811.4
30°	804.2	793.5	786.4	782.7	779.2	777.4	772.0	770.2	768.5	764.9	766.7
32.5°	746.9	738.0	730.9	725.4	725.4	721.8	720.1	720.1	718.3	718.3	718.3
35°	684.3	678.9	673.4	671.7	669.9	668.1	666.3	668.1	666.3	668.1	669.9
37.5°	627.0	621.6	617.9	616.1	614.4	616.1	614.4	614.4	616.1	619.8	621.6
40°	567.9	564.2	560.6	562.4	560.6	560.6	560.6	566.1	567.9	569.6	571.4
42.5°	512.3	508.7	506.9	506.9	508.7	506.9	510.6	512.3	515.9	521.3	524.8
45°	458.6	456.8	456.8	458.6	456.8	460.4	460.4	463.9	469.3	472.9	476.4
47.5°	408.4	408.4	408.4	410.2	410.2	412.0	415.6	417.3	420.9	424.5	428.2
50°	361.8	363.6	365.4	365.4	365.4	368.9	372.6	374.4	376.2	378.0	383.3
52.5°	320.7	322.5	322.5	324.2	326.0	327.8	329.6	333.2	334.9	338.5	340.3
55°	281.2	281.2	284.8	286.5	286.5	286.5	290.2	290.2	293.8	295.6	299.2
57.5°	243.6	245.4	245.4	247.2	247.2	249.0	250.8	252.5	254.3	256.1	257.9
60°	207.8	207.8	207.8	209.6	211.4	213.2	211.4	215.0	215.0	218.5	220.3
62.5°	173.7	175.5	175.5	175.5	175.5	175.5	175.5	177.3	179.2	181.0	182.7
65°	141.5	141.5	141.5	139.7	141.5	139.7	141.5	143.3	143.3	145.1	146.8
67.5°	109.3	109.3	105.7	105.7	107.5	107.5	107.5	107.5	105.7	109.3	109.3
70°	78.8	77.0	75.3	73.5	73.5	71.7	71.7	69.9	69.9	69.9	69.9
72.5°	52.0	48.4	44.8	43.0	41.1	41.1	37.6	35.8	37.6	37.6	37.6
75°	26.9	23.3	21.5	19.7	18.0	18.0	16.2	16.2	16.2	16.2	16.2
77.5°	10.7	8.9	7.1	7.1	5.4	5.4	5.4	5.4	5.4	5.4	5.4
80°	3.6	3.6	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: P584317

CATALOG NUMBER: HC830D010-HM82555927-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4	1198.4
2.5°	1175.1	1175.1	1173.3	1175.1	1171.5	1173.3	1171.5	1171.5
5°	1148.2	1144.7	1144.7	1144.7	1142.9	1142.9	1141.0	1141.0
7.5°	1116.0	1114.1	1112.3	1110.5	1108.7	1107.0	1107.0	1107.0
10°	1083.7	1080.1	1080.1	1078.3	1074.7	1073.0	1073.0	1073.0
12.5°	1046.1	1044.3	1042.5	1042.5	1035.4	1037.2	1035.4	1035.4
15°	1010.3	1008.5	1008.5	1003.0	999.5	999.5	999.5	997.7
17.5°	972.6	970.8	969.0	965.5	961.9	961.9	960.1	961.9
20°	933.2	931.5	927.9	927.9	926.1	924.3	920.6	922.5
22.5°	893.8	890.2	888.4	888.4	886.6	886.6	883.1	883.1
25°	852.6	850.8	849.1	850.8	847.3	847.3	843.7	843.7
27.5°	809.6	807.8	807.8	807.8	806.0	807.8	806.0	806.0
30°	766.7	766.7	764.9	764.9	766.7	764.9	766.7	768.5
32.5°	720.1	720.1	721.8	721.8	723.6	723.6	723.6	723.6
35°	671.7	675.4	675.4	677.1	678.9	680.7	680.7	682.5
37.5°	627.0	628.7	630.5	632.3	635.9	635.9	635.9	635.9
40°	578.6	580.4	583.9	582.1	589.3	591.1	589.3	589.3
42.5°	528.4	532.0	533.7	537.4	539.2	542.8	544.6	544.6
45°	481.9	483.7	487.3	490.8	492.6	498.0	498.0	498.0
47.5°	433.5	437.1	438.9	442.4	444.2	449.6	451.3	449.6
50°	386.9	390.5	394.0	394.0	399.5	401.3	404.9	406.6
52.5°	342.1	343.9	347.5	349.3	352.9	356.5	358.2	360.0
55°	299.2	300.9	304.5	304.5	309.9	311.6	315.2	315.2
57.5°	259.7	261.5	265.1	263.4	266.9	270.5	270.5	268.7
60°	222.1	222.1	222.1	225.7	227.5	229.2	231.0	231.0
62.5°	182.7	186.3	188.1	188.1	189.9	191.7	191.7	189.9
65°	146.8	150.4	152.3	152.3	154.1	154.1	154.1	155.9
67.5°	111.1	111.1	111.1	112.8	111.1	111.1	111.1	111.1
70°	69.9	69.9	69.9	69.9	68.0	69.9	69.9	71.7
72.5°	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6
75°	16.2	16.2	16.2	18.0	16.2	16.2	16.2	16.2
77.5°	7.1	5.4	7.1	7.1	5.4	5.4	5.4	5.4
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)