

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: P584310

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

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584310  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-14)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC830D010-HM82555927-81RWWC  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2551.0 lumens  
Efficiency: N/A  
Efficacy: 91.1 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.08 / 1.17  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

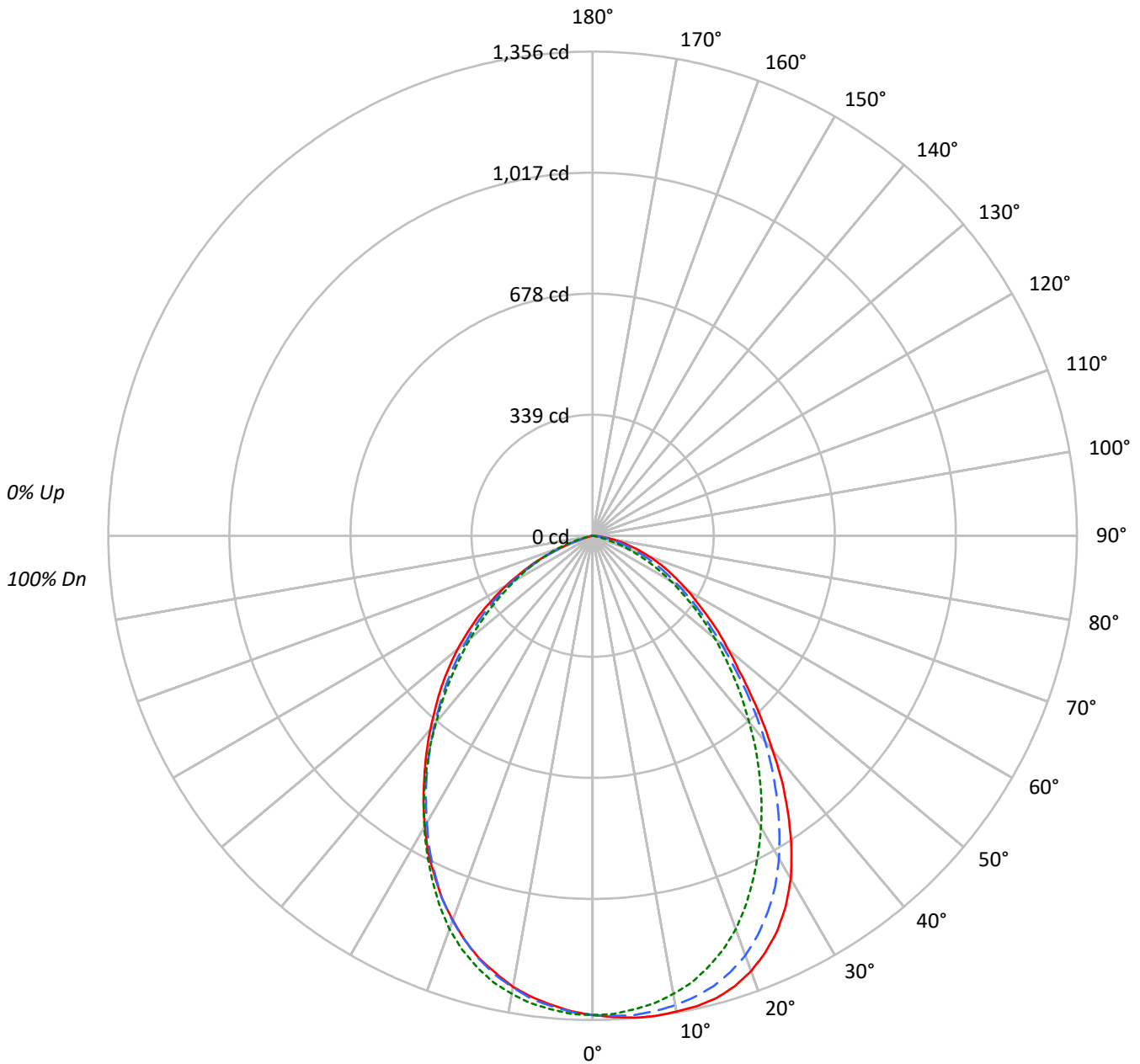
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	85	100	94	89	84	91	86	82	87	84	81	84	82	79	77																			
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67																			
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59																			
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	55	50	60	54	49	58	53	49	47																			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																			
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

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

	0°	90°	180°
0°	41392	41392	41392
5°	41934	41212	40828
10°	42365	40793	40173
15°	42794	39931	39129
20°	42575	38460	37577
25°	41584	36157	35667
30°	39495	33563	33438
35°	35954	30627	30898
40°	31523	27409	28419
45°	27195	24382	26100
50°	23814	21405	23641
55°	21101	18403	20811
60°	19008	15474	17237
65°	17125	12426	13207
70°	15030	9052	7267
75°	12808	4706	1930
80°	9856	1261	320
85°	6369	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	126.6	5.0
10°-20°	356.0	14.0
20°-30°	505.3	19.8
30°-40°	531.9	20.9
40°-50°	452.5	17.7
50°-60°	327.0	12.8
60°-70°	186.0	7.3
70°-80°	58.6	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°	987.9	38.7
0°-40°	1519.8	59.6
0°-60°	2299.3	90.1
0°-90°	2551.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2551.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1342	1342	1342	1342	1342	
5°	1355	1348	1331	1322	1319	129
15°	1340	1306	1251	1228	1226	377
25°	1222	1161	1063	1045	1048	560
35°	955	900	814	808	821	594
45°	624	600	559	574	598	485
55°	392	364	342	362	387	354
65°	235	202	170	168	181	233
75°	108	82	40	18	16	116
85°	18	11	0	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°	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3
2.5°	1349.4	1351.2	1347.6	1347.6	1351.2	1347.6	1349.4	1349.4	1347.6	1347.6	1345.8
5°	1354.7	1353.0	1353.0	1353.0	1354.7	1351.2	1349.4	1351.2	1347.6	1347.6	1347.6
7.5°	1356.5	1356.5	1354.7	1353.0	1353.0	1353.0	1351.2	1349.4	1347.6	1344.0	1342.3
10°	1353.0	1353.0	1354.7	1351.2	1351.2	1347.6	1347.6	1344.0	1344.0	1340.5	1335.0
12.5°	1349.4	1347.6	1347.6	1344.0	1344.0	1340.5	1340.5	1335.0	1333.2	1327.9	1322.5
15°	1340.5	1338.7	1335.0	1333.2	1331.4	1329.7	1326.1	1324.3	1319.0	1311.8	1306.4
17.5°	1322.5	1320.7	1319.0	1315.4	1311.8	1309.9	1308.1	1302.8	1295.7	1290.3	1281.3
20°	1297.4	1295.7	1295.7	1290.3	1288.5	1283.0	1281.3	1274.1	1268.8	1258.0	1250.8
22.5°	1263.4	1265.2	1261.6	1258.0	1254.4	1249.0	1245.5	1238.3	1229.3	1218.6	1209.6
25°	1222.2	1224.0	1220.4	1216.8	1211.5	1207.8	1204.2	1193.5	1184.5	1172.0	1161.3
27.5°	1170.2	1170.2	1170.2	1166.6	1157.6	1155.8	1152.3	1141.6	1129.0	1118.3	1107.4
30°	1109.2	1107.4	1107.4	1102.1	1098.5	1091.4	1086.0	1077.0	1068.1	1055.5	1043.0
32.5°	1035.9	1037.6	1032.2	1028.6	1023.3	1023.3	1016.1	1008.9	998.2	985.6	973.1
35°	955.1	956.9	953.3	951.6	942.6	940.9	939.1	930.0	922.9	914.0	899.6
37.5°	872.7	870.9	869.2	869.2	863.8	860.1	856.6	851.2	840.5	833.3	826.1
40°	783.1	783.1	783.1	781.3	779.5	775.9	774.2	770.6	763.5	756.2	750.9
42.5°	702.5	702.5	700.7	698.9	695.3	697.1	693.5	690.0	682.7	677.4	673.8
45°	623.6	623.6	623.6	625.4	621.8	616.5	616.5	612.9	609.2	605.7	600.3
47.5°	553.7	559.1	555.5	553.7	555.5	548.4	548.4	544.8	541.2	537.7	530.4
50°	496.4	496.4	496.4	492.8	491.1	491.1	485.6	482.0	480.2	476.7	469.5
52.5°	444.4	440.9	440.9	439.1	437.3	433.6	433.6	430.1	422.9	419.4	414.0
55°	392.5	392.5	390.7	388.9	387.1	385.2	383.5	378.1	374.5	369.2	363.8
57.5°	345.9	349.4	347.7	344.1	340.5	340.5	337.0	333.3	327.9	322.6	317.2
60°	308.2	306.4	306.4	304.6	301.1	299.3	297.5	292.1	286.7	281.3	276.0
62.5°	268.8	268.8	268.8	265.3	261.6	259.8	258.0	254.4	247.3	242.0	238.4
65°	234.7	232.9	231.1	229.4	227.6	224.0	222.2	218.7	213.3	207.8	202.5
67.5°	200.7	198.9	198.9	197.1	191.8	190.0	190.0	184.5	179.2	173.8	168.5
70°	166.7	166.7	166.7	163.1	161.2	159.4	157.7	154.1	148.7	143.4	138.0
72.5°	138.0	136.1	136.1	134.4	129.0	127.2	125.4	121.9	116.5	113.0	109.3
75°	107.5	107.5	105.7	103.9	102.1	100.4	98.6	95.0	89.7	84.2	82.4
77.5°	82.4	80.6	80.6	78.8	75.3	73.5	73.5	69.9	64.6	60.9	57.3
80°	55.5	57.3	55.5	53.7	52.0	50.2	48.4	46.6	43.0	39.5	35.8
82.5°	34.0	35.8	34.0	34.0	32.2	30.4	30.4	26.9	25.1	23.3	21.5
85°	18.0	18.0	18.0	18.0	16.2	16.2	16.2	14.4	12.6	10.7	10.7
87.5°	5.4	7.1	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°	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3
2.5°	1347.6	1345.8	1344.0	1344.0	1344.0	1344.0	1344.0	1342.3	1340.5	1340.5	1340.5
5°	1344.0	1344.0	1344.0	1342.3	1340.5	1340.5	1336.9	1335.0	1333.2	1331.4	1329.7
7.5°	1340.5	1336.9	1335.0	1333.2	1331.4	1331.4	1327.9	1324.3	1324.3	1320.7	1317.2
10°	1329.7	1327.9	1324.3	1320.7	1319.0	1317.2	1313.6	1308.1	1306.4	1302.8	1299.2
12.5°	1317.2	1313.6	1309.9	1302.8	1301.0	1299.2	1292.1	1286.7	1283.0	1281.3	1272.3
15°	1301.0	1293.9	1288.5	1279.5	1277.7	1274.1	1268.8	1263.4	1256.2	1250.8	1247.3
17.5°	1272.3	1265.2	1256.2	1247.3	1243.7	1243.7	1234.7	1227.5	1218.6	1215.0	1207.8
20°	1238.3	1229.3	1222.2	1211.5	1206.0	1200.7	1195.3	1184.5	1177.3	1172.0	1163.1
22.5°	1198.9	1186.4	1177.3	1166.6	1157.6	1152.3	1143.3	1134.3	1125.4	1120.0	1112.9
25°	1148.7	1138.0	1123.6	1112.9	1107.4	1100.3	1089.6	1080.6	1071.6	1062.7	1059.0
27.5°	1093.2	1078.8	1066.3	1053.7	1048.3	1043.0	1030.4	1019.7	1012.6	1003.5	999.9
30°	1032.2	1017.9	1003.5	992.8	987.5	978.4	971.3	958.7	949.8	942.6	933.6
32.5°	962.4	951.6	939.1	922.9	919.3	912.2	901.4	896.0	885.2	879.9	872.7
35°	887.1	879.9	867.4	854.8	849.4	845.9	836.9	826.1	819.0	813.6	809.9
37.5°	815.4	806.4	793.9	784.9	781.3	775.9	765.2	759.8	752.6	749.1	741.9
40°	738.4	729.3	720.4	715.1	709.6	706.0	698.9	693.5	686.4	680.9	679.2
42.5°	663.1	657.6	650.5	643.4	641.6	636.1	632.5	627.2	621.8	620.1	614.7
45°	595.0	589.6	582.4	575.2	573.5	569.9	568.1	562.8	559.1	559.1	559.1
47.5°	526.8	521.5	514.4	510.7	512.6	505.3	505.3	503.5	500.0	500.0	501.8
50°	466.0	458.7	456.9	453.4	449.8	446.2	448.0	442.7	442.7	446.2	444.4
52.5°	408.5	401.4	399.6	396.1	394.3	394.3	392.5	392.5	390.7	392.5	392.5
55°	356.6	351.2	347.7	344.1	342.3	342.3	342.3	340.5	338.7	342.3	344.1
57.5°	310.0	308.2	304.6	299.3	297.5	295.7	293.9	293.9	293.9	293.9	295.7
60°	268.8	265.3	261.6	256.2	256.2	254.4	252.7	250.9	250.9	250.9	250.9
62.5°	232.9	227.6	222.2	218.7	216.9	215.1	213.3	209.6	209.6	209.6	209.6
65°	197.1	191.8	188.2	184.5	181.0	181.0	177.4	175.6	172.0	170.3	166.7
67.5°	163.1	159.4	155.9	150.5	148.7	147.0	143.4	141.6	136.1	134.4	132.6
70°	132.6	127.2	123.7	120.1	118.3	114.7	111.1	107.5	103.9	100.4	96.8
72.5°	103.9	98.6	95.0	91.4	87.9	87.9	82.4	78.8	73.5	69.9	64.6
75°	77.0	71.7	68.1	62.8	60.9	59.1	53.7	50.2	44.8	39.5	35.8
77.5°	52.0	48.4	44.8	39.5	35.8	35.8	30.4	26.9	23.3	18.0	16.2
80°	32.2	28.7	25.1	21.5	21.5	18.0	16.2	12.6	8.9	7.1	5.4
82.5°	18.0	16.2	14.4	10.7	10.7	8.9	7.1	5.4	3.6	1.8	1.8
85°	8.9	7.1	5.4	5.4	3.6	3.6	3.6	1.8	1.8	0.0	0.0
87.5°	3.6	1.8	1.8	1.8	1.8	1.8	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



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**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3
2.5°	1338.7	1338.7	1336.9	1336.9	1336.9	1335.0	1336.9	1335.0	1335.0	1335.0	1336.9
5°	1331.4	1327.9	1327.9	1326.1	1326.1	1324.3	1326.1	1324.3	1322.5	1320.7	1322.5
7.5°	1317.2	1313.6	1311.8	1309.9	1309.9	1309.9	1308.1	1306.4	1308.1	1302.8	1306.4
10°	1297.4	1295.7	1292.1	1290.3	1288.5	1290.3	1288.5	1284.8	1284.8	1284.8	1283.0
12.5°	1272.3	1268.8	1267.0	1265.2	1261.6	1261.6	1263.4	1259.7	1259.7	1256.2	1256.2
15°	1241.9	1238.3	1234.7	1234.7	1231.1	1231.1	1229.3	1229.3	1227.5	1225.7	1225.7
17.5°	1204.2	1198.9	1195.3	1197.1	1195.3	1193.5	1193.5	1190.0	1188.2	1190.0	1190.0
20°	1159.4	1155.8	1152.3	1154.0	1150.5	1148.7	1150.5	1145.1	1146.9	1146.9	1146.9
22.5°	1109.2	1107.4	1102.1	1102.1	1098.5	1096.7	1098.5	1098.5	1100.3	1098.5	1098.5
25°	1053.7	1050.1	1046.6	1046.6	1044.8	1043.0	1044.8	1046.6	1044.8	1046.6	1046.6
27.5°	994.6	989.2	989.2	985.6	985.6	987.5	985.6	987.5	989.2	989.2	992.8
30°	930.0	928.3	926.5	924.7	924.7	926.5	926.5	926.5	928.3	931.8	931.8
32.5°	869.2	865.6	862.0	862.0	865.6	863.8	865.6	865.6	869.2	869.2	872.7
35°	802.8	802.8	799.2	801.0	801.0	801.0	801.0	804.6	808.2	809.9	813.6
37.5°	741.9	736.6	738.4	738.4	740.2	738.4	743.7	743.7	747.3	747.3	750.9
40°	675.6	675.6	677.4	675.6	677.4	677.4	680.9	684.5	686.4	690.0	691.8
42.5°	612.9	616.5	612.9	614.7	616.5	618.3	620.1	621.8	629.0	632.5	638.0
45°	555.5	557.3	559.1	560.9	559.1	562.8	564.5	568.1	573.5	575.2	577.0
47.5°	500.0	501.8	503.5	505.3	505.3	508.9	510.7	514.4	517.9	519.7	521.5
50°	446.2	449.8	451.6	451.6	453.4	456.9	460.5	460.5	464.2	469.5	471.3
52.5°	397.8	397.8	401.4	403.2	405.0	405.0	410.3	412.2	414.0	417.6	421.1
55°	344.1	349.4	351.2	351.2	354.8	358.4	360.1	362.1	362.1	369.2	369.2
57.5°	297.5	299.3	302.8	302.8	302.8	308.2	308.2	311.8	313.7	315.4	319.0
60°	250.9	254.4	254.4	256.2	254.4	258.0	259.8	263.5	265.3	267.0	268.8
62.5°	207.8	207.8	209.6	209.6	209.6	209.6	213.3	213.3	216.9	218.7	220.4
65°	166.7	166.7	166.7	166.7	166.7	166.7	166.7	166.7	168.5	168.5	172.0
67.5°	129.0	127.2	123.7	125.4	123.7	123.7	121.9	121.9	123.7	123.7	127.2
70°	93.2	91.4	87.9	87.9	86.0	84.2	82.4	80.6	78.8	78.8	78.8
72.5°	60.9	57.3	52.0	50.2	50.2	46.6	43.0	41.3	41.3	41.3	41.3
75°	30.4	26.9	23.3	21.5	21.5	18.0	19.7	18.0	18.0	18.0	18.0
77.5°	12.6	8.9	7.1	7.1	7.1	5.4	5.4	5.4	5.4	5.4	5.4
80°	3.6	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
82.5°	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	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	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: P584310

CATALOG NUMBER: HC830D010-HM82555927-81RWWC

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3	1342.3
2.5°	1335.0	1335.0	1331.4	1333.2	1333.2	1333.2	1333.2	1333.2
5°	1319.0	1320.7	1319.0	1320.7	1320.7	1319.0	1319.0	1319.0
7.5°	1302.8	1304.6	1302.8	1304.6	1304.6	1304.6	1302.8	1302.8
10°	1283.0	1283.0	1283.0	1283.0	1283.0	1281.3	1283.0	1283.0
12.5°	1256.2	1256.2	1256.2	1258.0	1258.0	1256.2	1256.2	1254.4
15°	1227.5	1224.0	1225.7	1227.5	1225.7	1225.7	1225.7	1225.7
17.5°	1188.2	1190.0	1188.2	1188.2	1188.2	1188.2	1190.0	1188.2
20°	1146.9	1146.9	1148.7	1146.9	1146.9	1146.9	1146.9	1145.1
22.5°	1100.3	1098.5	1098.5	1100.3	1100.3	1098.5	1100.3	1100.3
25°	1048.3	1050.1	1048.3	1048.3	1050.1	1050.1	1050.1	1048.3
27.5°	992.8	994.6	996.4	994.6	994.6	994.6	996.4	998.2
30°	935.4	939.1	935.4	935.4	939.1	937.3	939.1	939.1
32.5°	874.5	879.9	876.3	879.9	879.9	881.6	879.9	881.6
35°	813.6	819.0	819.0	819.0	820.8	822.6	822.6	820.8
37.5°	756.2	758.0	758.0	761.7	763.5	765.2	765.2	763.5
40°	697.1	700.7	702.5	702.5	702.5	706.0	709.6	706.0
42.5°	639.8	641.6	643.4	643.4	646.9	648.7	650.5	650.5
45°	584.2	587.8	589.6	591.4	593.2	596.8	595.0	598.5
47.5°	526.8	532.2	534.0	535.8	539.4	541.2	543.0	544.8
50°	474.9	478.5	478.5	482.0	487.5	487.5	491.1	492.8
52.5°	422.9	424.7	426.5	428.3	431.8	435.4	435.4	439.1
55°	372.8	374.5	374.5	376.3	378.1	385.2	387.1	387.1
57.5°	320.8	320.8	324.4	326.1	327.9	331.5	331.5	331.5
60°	270.6	272.4	272.4	274.2	276.0	279.5	281.3	279.5
62.5°	220.4	222.2	222.2	224.0	227.6	229.4	227.6	227.6
65°	173.8	175.6	175.6	177.4	181.0	181.0	179.2	181.0
67.5°	127.2	127.2	127.2	127.2	127.2	127.2	127.2	127.2
70°	80.6	78.8	77.0	78.8	78.8	78.8	77.0	80.6
72.5°	39.5	41.3	41.3	41.3	41.3	41.3	41.3	39.5
75°	18.0	18.0	16.2	16.2	16.2	18.0	18.0	16.2
77.5°	5.4	5.4	5.4	5.4	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°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	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)