

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: P584334

Luminaire Tested: **HC830D010-HM82555930-81WWBB**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584334  
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-HM82555930-81WWBB  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2658.0 lumens  
Efficiency: N/A  
Efficacy: 94.9 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

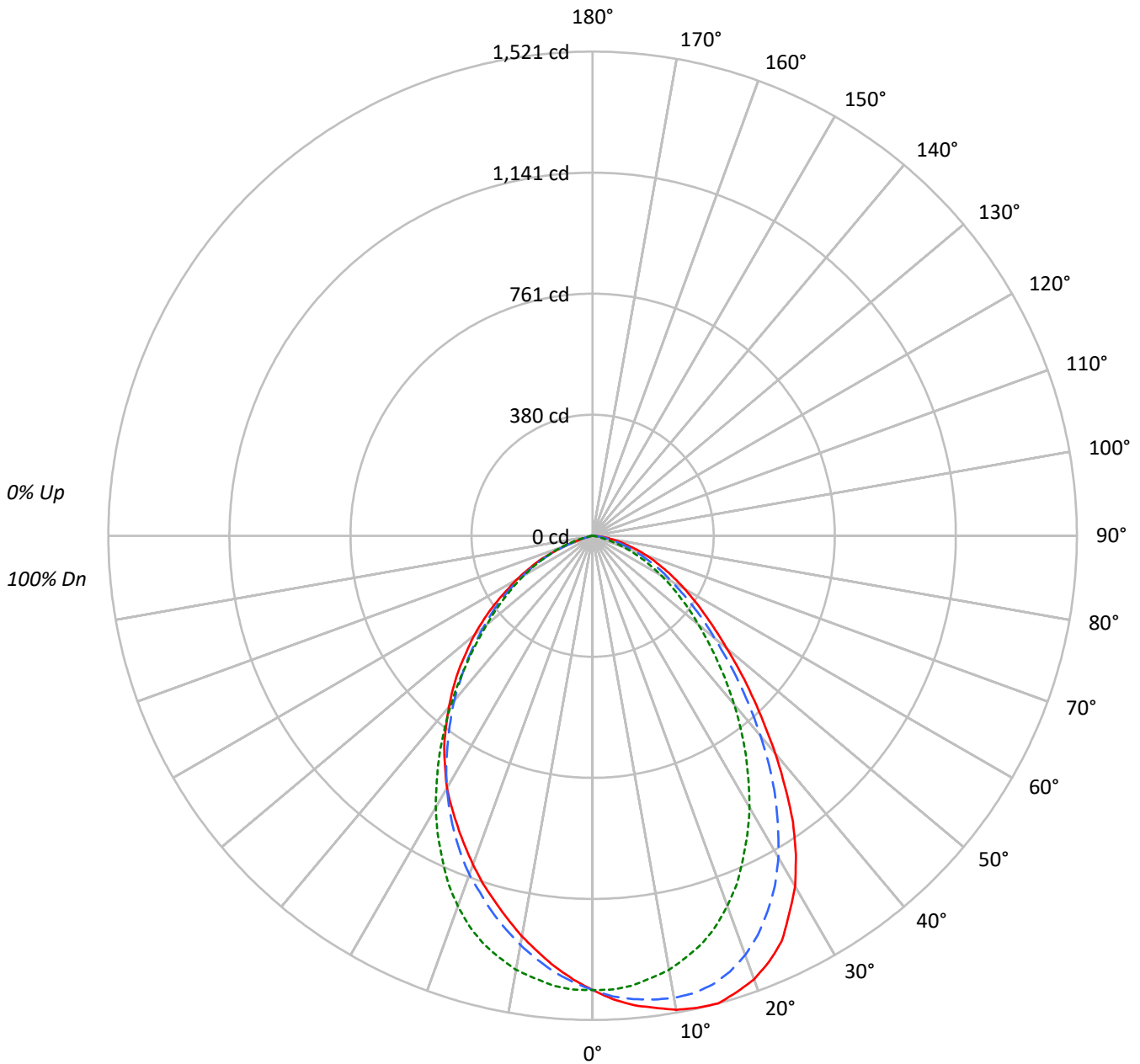
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	44003	44003	44003
5°	45821	43908	42060
10°	47353	43348	40007
15°	48550	42354	37926
20°	48645	40599	36048
25°	47824	38029	34184
30°	45267	35087	32584
35°	41273	31553	30593
40°	35890	27815	28246
45°	30788	24090	25860
50°	26294	20772	23228
55°	23053	17892	20182
60°	20525	15258	16966
65°	18212	12448	13542
70°	16157	9232	7700
75°	13475	4825	2276
80°	10601	1527	373
85°	7536	743	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	134.5	5.1
10°-20°	376.9	14.2
20°-30°	533.4	20.1
30°-40°	558.1	21.0
40°-50°	465.5	17.5
50°-60°	330.1	12.4
60°-70°	190.1	7.2
70°-80°	61.2	2.3
80°-90°	8.4	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°	1044.7	39.3
0°-40°	1602.8	60.3
0°-60°	2398.3	90.2
0°-90°	2658.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2658.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1427	1427	1427	1427	1427	
5°	1480	1461	1418	1376	1359	142
15°	1521	1459	1327	1222	1188	428
25°	1406	1301	1118	1028	1005	641
35°	1096	1000	838	794	813	680
45°	706	648	552	559	593	547
55°	429	384	333	350	375	387
65°	250	209	171	171	186	249
75°	113	83	40	19	19	123
85°	21	11	2	0	0	27
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°	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0
2.5°	1456.9	1454.7	1452.6	1454.7	1452.6	1454.7	1452.6	1452.6	1450.5	1448.3	1448.3
5°	1480.3	1478.2	1478.2	1478.2	1476.0	1473.9	1473.9	1471.7	1467.5	1465.3	1461.2
7.5°	1495.3	1497.4	1497.4	1497.4	1493.1	1493.1	1488.9	1484.6	1480.3	1476.0	1469.6
10°	1512.3	1512.3	1510.1	1508.0	1503.7	1501.6	1499.6	1495.3	1488.9	1480.3	1473.9
12.5°	1518.7	1518.7	1516.6	1512.3	1510.1	1508.0	1505.9	1499.6	1491.0	1480.3	1471.7
15°	1520.8	1516.6	1514.4	1512.3	1508.0	1501.6	1501.6	1493.1	1482.4	1469.6	1459.0
17.5°	1503.7	1505.9	1501.6	1497.4	1491.0	1486.7	1480.3	1473.9	1461.2	1446.2	1435.5
20°	1482.4	1480.3	1478.2	1471.7	1463.3	1461.2	1454.7	1444.0	1433.3	1416.3	1401.4
22.5°	1448.3	1446.2	1441.9	1437.6	1429.2	1424.9	1418.5	1405.6	1390.8	1373.7	1356.6
25°	1405.6	1401.4	1394.9	1386.5	1380.1	1375.8	1367.2	1354.5	1337.4	1318.2	1301.1
27.5°	1337.4	1343.8	1339.5	1326.7	1320.4	1311.8	1309.7	1292.6	1277.7	1258.4	1239.3
30°	1271.3	1271.3	1264.9	1258.4	1247.9	1241.4	1232.9	1220.0	1205.2	1181.7	1166.8
32.5°	1188.0	1185.9	1177.5	1175.3	1166.8	1153.9	1151.8	1134.8	1119.8	1102.8	1083.5
35°	1096.4	1092.1	1083.5	1077.1	1073.0	1066.5	1060.1	1045.1	1030.3	1013.1	1000.4
37.5°	991.9	991.9	989.7	979.0	974.7	970.6	964.2	949.2	940.6	923.6	910.8
40°	891.6	889.5	883.1	880.9	876.6	870.2	865.9	857.5	844.7	831.8	819.1
42.5°	793.5	795.6	787.1	789.3	780.7	776.4	774.3	761.4	755.1	742.3	731.6
45°	706.0	703.9	699.6	697.5	693.2	688.9	684.7	678.3	667.6	654.8	648.5
47.5°	624.9	618.5	618.5	616.5	614.4	605.8	603.7	597.2	590.8	578.1	569.5
50°	548.1	548.1	548.1	546.1	539.7	537.5	533.3	526.8	520.4	512.0	499.1
52.5°	486.3	486.3	486.3	484.2	475.7	473.6	471.4	462.9	454.3	447.9	439.5
55°	428.8	430.9	428.8	424.5	418.1	418.1	411.6	407.4	398.9	392.5	383.9
57.5°	379.6	379.6	375.4	373.2	369.1	366.9	362.6	358.4	347.7	341.2	330.7
60°	332.8	330.7	330.7	326.4	322.1	317.8	315.7	309.3	305.0	294.4	285.8
62.5°	290.1	290.1	285.8	285.8	277.3	277.3	275.1	268.7	262.4	251.7	247.4
65°	249.6	249.6	247.4	245.3	238.9	236.7	234.6	228.3	221.9	215.4	209.0
67.5°	213.3	213.3	209.0	206.9	202.6	200.5	196.2	192.0	185.6	179.2	172.8
70°	179.2	177.0	174.9	172.8	168.5	166.3	162.1	157.9	151.5	147.2	140.8
72.5°	145.1	145.1	142.9	138.6	136.5	134.4	132.2	127.9	121.6	115.2	110.9
75°	113.1	113.1	113.1	108.8	104.5	102.4	102.4	98.1	93.8	87.5	83.2
77.5°	87.5	85.4	83.2	83.2	78.9	76.8	74.7	72.5	66.1	64.0	59.7
80°	59.7	61.8	59.7	57.5	55.4	53.3	53.3	49.1	47.0	42.7	38.4
82.5°	40.5	38.4	38.4	36.3	36.3	34.1	34.1	29.8	27.7	25.6	23.4
85°	21.3	21.3	19.1	19.1	19.1	17.1	17.1	15.0	15.0	12.8	10.7
87.5°	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	4.3	4.3	4.3
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°	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0
2.5°	1446.2	1441.9	1439.8	1439.8	1437.6	1435.5	1433.3	1431.2	1427.0	1427.0	1422.8
5°	1456.9	1452.6	1450.5	1444.0	1439.8	1439.8	1431.2	1429.2	1422.8	1418.5	1414.2
7.5°	1465.3	1456.9	1450.5	1444.0	1439.8	1435.5	1427.0	1418.5	1409.9	1401.4	1397.1
10°	1465.3	1456.9	1446.2	1435.5	1431.2	1427.0	1416.3	1403.5	1392.9	1384.4	1373.7
12.5°	1461.2	1448.3	1435.5	1427.0	1418.5	1412.1	1399.2	1386.5	1373.7	1356.6	1348.1
15°	1448.3	1431.2	1418.5	1403.5	1397.1	1386.5	1375.8	1356.6	1341.7	1326.7	1316.1
17.5°	1422.8	1401.4	1386.5	1371.5	1360.8	1354.5	1337.4	1320.4	1303.3	1286.3	1273.4
20°	1384.4	1365.1	1348.1	1328.8	1320.4	1311.8	1290.4	1273.4	1256.3	1237.2	1224.3
22.5°	1337.4	1318.2	1294.7	1279.8	1267.0	1256.3	1237.2	1218.0	1200.9	1183.8	1166.8
25°	1279.8	1260.6	1239.3	1215.9	1207.3	1196.6	1175.3	1156.1	1136.9	1117.7	1102.8
27.5°	1218.0	1192.3	1175.3	1149.6	1141.2	1130.5	1107.1	1085.7	1068.7	1053.7	1036.7
30°	1143.3	1124.1	1100.7	1077.1	1068.7	1058.0	1038.8	1019.6	1002.6	985.4	968.4
32.5°	1062.3	1043.0	1019.6	1002.6	989.7	981.2	962.0	944.9	927.9	910.8	895.9
35°	976.9	955.6	938.5	921.5	910.8	900.2	880.9	865.9	853.2	838.2	823.4
37.5°	889.5	874.5	857.5	838.2	827.7	819.1	804.1	787.1	776.4	763.6	753.0
40°	804.1	787.1	772.1	755.1	746.6	740.2	725.2	712.4	701.7	691.0	684.7
42.5°	716.7	701.7	686.9	676.2	669.8	663.3	652.8	637.8	631.4	620.7	614.4
45°	635.6	622.8	612.2	597.2	593.0	588.7	576.0	565.3	558.8	552.4	548.1
47.5°	558.8	550.3	537.5	529.0	522.6	518.3	509.8	501.3	494.9	490.6	486.3
50°	492.7	482.0	473.6	465.0	460.7	454.3	445.8	441.5	437.3	433.0	433.0
52.5°	430.9	420.2	411.6	405.3	401.0	396.8	390.3	388.2	383.9	383.9	381.8
55°	373.2	366.9	358.4	349.8	347.7	345.5	341.2	337.0	334.9	332.8	334.9
57.5°	324.2	317.8	309.3	302.8	300.7	298.7	296.5	292.3	290.1	290.1	290.1
60°	279.4	273.0	266.6	260.3	260.3	256.0	253.9	251.7	249.6	247.4	247.4
62.5°	238.9	232.4	226.1	221.9	219.7	217.6	213.3	211.2	209.0	209.0	206.9
65°	202.6	194.2	192.0	185.6	183.5	181.3	179.2	174.9	172.8	170.6	168.5
67.5°	166.3	162.1	155.8	151.5	149.3	147.2	145.1	140.8	138.6	136.5	132.2
70°	134.4	130.1	125.8	121.6	119.5	117.4	113.1	108.8	106.7	102.4	96.0
72.5°	104.5	100.2	96.0	91.7	89.5	87.5	83.2	78.9	74.7	70.4	66.1
75°	78.9	74.7	68.2	64.0	61.8	61.8	55.4	51.2	47.0	40.5	36.3
77.5°	55.4	49.1	47.0	42.7	40.5	36.3	32.0	27.7	23.4	21.3	17.1
80°	36.3	32.0	27.7	25.6	23.4	21.3	19.1	15.0	10.7	8.6	6.4
82.5°	21.3	19.1	17.1	15.0	12.8	10.7	8.6	8.6	6.4	4.3	2.1
85°	10.7	8.6	6.4	6.4	4.3	4.3	4.3	2.1	2.1	2.1	2.1
87.5°	4.3	2.1	2.1	2.1	2.1	2.1	2.1	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°	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0
2.5°	1420.6	1418.5	1416.3	1414.2	1414.2	1409.9	1409.9	1407.8	1403.5	1401.4	1401.4
5°	1407.8	1401.4	1397.1	1394.9	1392.9	1386.5	1384.4	1380.1	1375.8	1371.5	1369.4
7.5°	1388.6	1377.9	1373.7	1371.5	1365.1	1358.8	1354.5	1348.1	1341.7	1335.2	1333.1
10°	1365.1	1354.5	1343.8	1339.5	1333.1	1328.8	1320.4	1311.8	1305.4	1299.0	1292.6
12.5°	1335.2	1322.5	1311.8	1307.5	1301.1	1292.6	1279.8	1275.6	1264.9	1260.6	1252.1
15°	1301.1	1286.3	1275.6	1269.1	1262.7	1250.0	1241.4	1232.9	1222.2	1218.0	1209.5
17.5°	1258.4	1241.4	1230.7	1224.3	1220.0	1209.5	1196.6	1185.9	1175.3	1171.0	1164.6
20°	1207.3	1196.6	1181.7	1175.3	1171.0	1158.2	1145.5	1141.2	1132.6	1124.1	1117.7
22.5°	1149.6	1139.1	1124.1	1117.7	1115.5	1104.9	1094.2	1087.8	1081.4	1075.1	1068.7
25°	1090.0	1077.1	1064.4	1060.1	1055.8	1047.3	1038.8	1034.5	1028.1	1023.8	1019.6
27.5°	1026.0	1013.1	1002.6	996.1	991.9	985.4	981.2	976.9	972.6	968.4	966.3
30°	957.7	944.9	936.3	932.2	927.9	925.8	919.3	917.2	915.1	910.8	912.9
32.5°	889.5	878.8	870.2	863.9	863.9	859.6	857.5	857.5	855.4	855.4	855.4
35°	814.8	808.4	802.0	799.8	797.7	795.6	793.5	795.6	793.5	795.6	797.7
37.5°	746.6	740.2	735.9	733.7	731.6	733.7	731.6	731.6	733.7	738.0	740.2
40°	676.2	671.9	667.6	669.8	667.6	667.6	667.6	674.0	676.2	678.3	680.5
42.5°	610.1	605.8	603.7	603.7	605.8	603.7	607.9	610.1	614.4	620.7	624.9
45°	546.1	544.0	544.0	546.1	544.0	548.1	548.1	552.4	558.8	563.1	567.4
47.5°	486.3	486.3	486.3	488.4	488.4	490.6	494.9	497.0	501.3	505.6	509.8
50°	430.9	433.0	435.2	435.2	435.2	439.5	443.6	445.8	447.9	450.0	456.5
52.5°	381.8	383.9	383.9	386.1	388.2	390.3	392.5	396.8	398.9	403.2	405.3
55°	334.9	334.9	339.1	341.2	341.2	341.2	345.5	345.5	349.8	351.9	356.2
57.5°	290.1	292.3	292.3	294.4	294.4	296.5	298.7	300.7	302.8	305.0	307.1
60°	247.4	247.4	247.4	249.6	251.7	253.9	251.7	256.0	256.0	260.3	262.4
62.5°	206.9	209.0	209.0	209.0	209.0	209.0	209.0	211.2	213.3	215.4	217.6
65°	168.5	168.5	168.5	166.3	168.5	166.3	168.5	170.6	170.6	172.8	174.9
67.5°	130.1	130.1	125.8	125.8	127.9	127.9	127.9	127.9	125.8	130.1	130.1
70°	93.8	91.7	89.5	87.5	87.5	85.4	85.4	83.2	83.2	83.2	83.2
72.5°	61.8	57.5	53.3	51.2	49.1	49.1	44.8	42.7	44.8	44.8	44.8
75°	32.0	27.7	25.6	23.4	21.3	21.3	19.1	19.1	19.1	19.1	19.1
77.5°	12.8	10.7	8.6	8.6	6.4	6.4	6.4	6.4	6.4	6.4	6.4
80°	4.3	4.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
82.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
85°	2.1	0.0	0.0	2.1	0.0	2.1	2.1	2.1	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: P584334

CATALOG NUMBER: HC830D010-HM82555930-81WWBB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0	1427.0
2.5°	1399.2	1399.2	1397.1	1399.2	1394.9	1397.1	1394.9	1394.9
5°	1367.2	1363.0	1363.0	1363.0	1360.8	1360.8	1358.8	1358.8
7.5°	1328.8	1326.7	1324.5	1322.5	1320.4	1318.2	1318.2	1318.2
10°	1290.4	1286.3	1286.3	1284.1	1279.8	1277.7	1277.7	1277.7
12.5°	1245.7	1243.6	1241.4	1241.4	1232.9	1235.0	1232.9	1232.9
15°	1203.0	1200.9	1200.9	1194.5	1190.2	1190.2	1190.2	1188.0
17.5°	1158.2	1156.1	1153.9	1149.6	1145.5	1145.5	1143.3	1145.5
20°	1111.4	1109.2	1104.9	1104.9	1102.8	1100.7	1096.4	1098.5
22.5°	1064.4	1060.1	1058.0	1058.0	1055.8	1055.8	1051.6	1051.6
25°	1015.3	1013.1	1011.0	1013.1	1008.9	1008.9	1004.7	1004.7
27.5°	964.2	962.0	962.0	962.0	959.9	962.0	959.9	959.9
30°	912.9	912.9	910.8	910.8	912.9	910.8	912.9	915.1
32.5°	857.5	857.5	859.6	859.6	861.8	861.8	861.8	861.8
35°	799.8	804.1	804.1	806.3	808.4	810.5	810.5	812.7
37.5°	746.6	748.7	750.9	753.0	757.3	757.3	757.3	757.3
40°	688.9	691.0	695.3	693.2	701.7	703.9	701.7	701.7
42.5°	629.2	633.5	635.6	639.9	642.1	646.3	648.5	648.5
45°	573.8	576.0	580.2	584.4	586.5	593.0	593.0	593.0
47.5°	516.1	520.4	522.6	526.8	529.0	535.4	537.5	535.4
50°	460.7	465.0	469.3	469.3	475.7	477.7	482.0	484.2
52.5°	407.4	409.5	413.8	415.9	420.2	424.5	426.6	428.8
55°	356.2	358.4	362.6	362.6	369.1	371.1	375.4	375.4
57.5°	309.3	311.4	315.7	313.5	317.8	322.1	322.1	320.0
60°	264.6	264.6	264.6	268.7	270.9	273.0	275.1	275.1
62.5°	217.6	221.9	224.0	224.0	226.1	228.3	228.3	226.1
65°	174.9	179.2	181.3	181.3	183.5	183.5	183.5	185.6
67.5°	132.2	132.2	132.2	134.4	132.2	132.2	132.2	132.2
70°	83.2	83.2	83.2	83.2	81.1	83.2	83.2	85.4
72.5°	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8
75°	19.1	19.1	19.1	21.3	19.1	19.1	19.1	19.1
77.5°	8.6	6.4	8.6	8.6	6.4	6.4	6.4	6.4
80°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
82.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
85°	0.0	2.1	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)