

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: P584353

Luminaire Tested: **HC830D010-HM82555935-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584353
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: HC830D010-HM82555935-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3037.0 lumens
Efficiency: N/A
Efficacy: 108.5 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

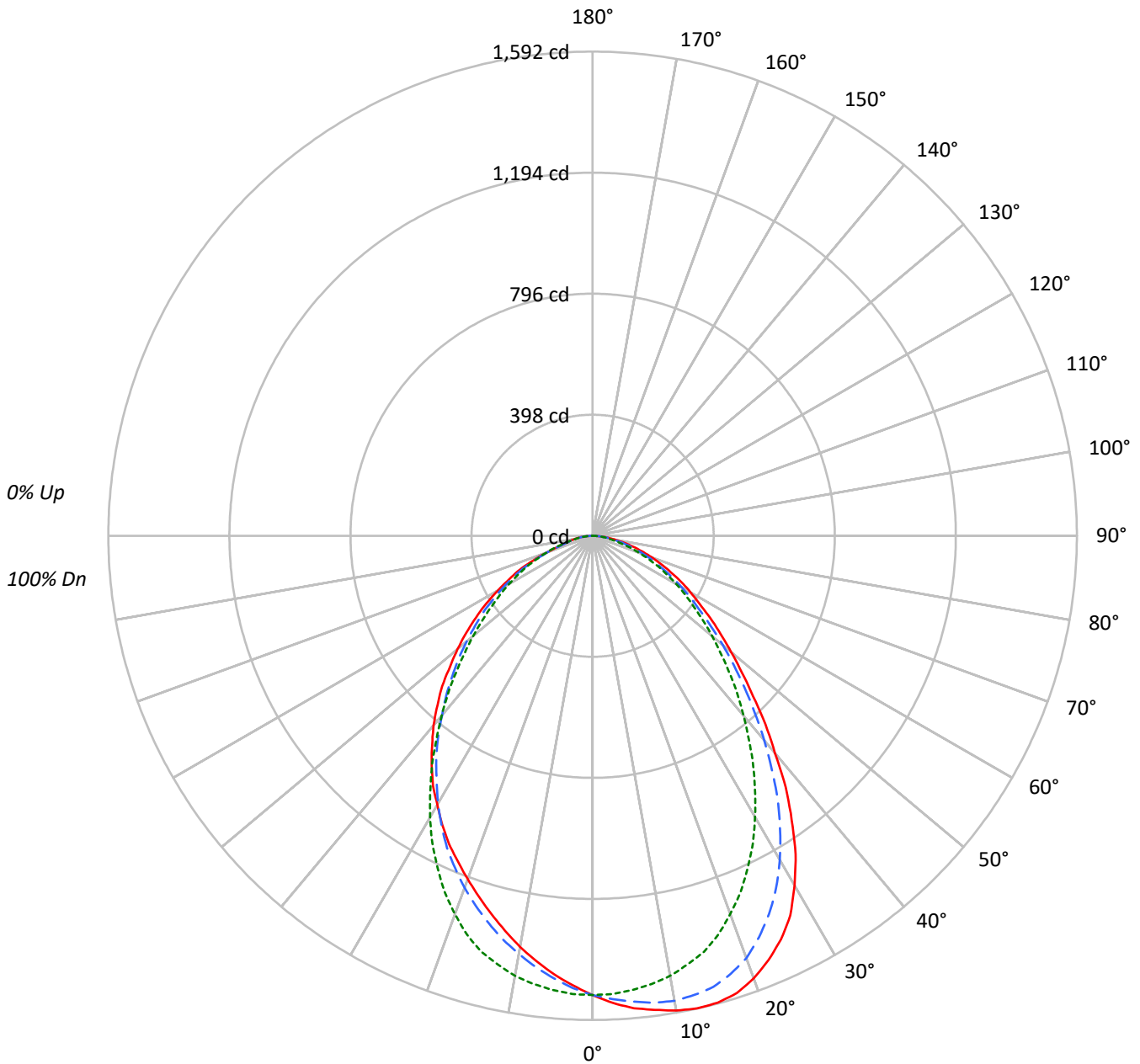
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	46563	46563	46563
5°	48270	46406	44815
10°	49633	46004	42982
15°	50737	45192	41086
20°	50818	43428	39414
25°	49845	41013	38019
30°	47271	38035	36354
35°	42956	34640	34719
40°	37557	31080	32722
45°	32554	27687	30496
50°	28501	24591	27786
55°	25370	21790	25139
60°	22887	19581	22091
65°	20656	17212	19248
70°	18564	14507	14308
75°	16358	11497	10735
80°	13709	9518	10282
85°	10650	8314	9093



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.4	4.7
10°-20°	401.2	13.2
20°-30°	573.4	18.9
30°-40°	609.3	20.1
40°-50°	524.6	17.3
50°-60°	392.2	12.9
60°-70°	250.2	8.2
70°-80°	113.8	3.7
80°-90°	29.9	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°	1117.1	36.8
0°-40°	1726.3	56.8
0°-60°	2643.1	87.0
0°-90°	3037.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3037.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1510	1510	1510	1510	1510	
5°	1559	1538	1499	1461	1448	149
15°	1589	1536	1416	1319	1287	448
25°	1465	1373	1205	1132	1117	671
35°	1141	1062	920	896	922	711
45°	746	706	635	652	699	580
55°	472	433	405	440	468	424
65°	283	251	236	247	264	282
75°	137	118	96	88	90	146
85°	30	26	24	26	26	36
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°	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0
2.5°	1537.9	1533.6	1535.7	1533.6	1535.7	1535.7	1531.4	1531.4	1531.4	1531.4	1525.0
5°	1559.4	1557.2	1557.2	1555.0	1552.8	1555.0	1552.8	1550.7	1546.4	1544.3	1537.9
7.5°	1572.2	1572.2	1572.2	1572.2	1570.1	1567.9	1565.8	1561.5	1557.2	1552.8	1548.6
10°	1585.1	1587.2	1585.1	1582.9	1580.8	1576.5	1574.4	1570.1	1563.7	1557.2	1552.8
12.5°	1591.5	1591.5	1589.3	1589.3	1585.1	1582.9	1576.5	1570.1	1563.7	1557.2	1546.4
15°	1589.3	1589.3	1587.2	1585.1	1578.6	1576.5	1572.2	1565.8	1555.0	1546.4	1535.7
17.5°	1576.5	1574.4	1570.1	1570.1	1561.5	1559.4	1555.0	1546.4	1535.7	1522.9	1510.0
20°	1548.6	1548.6	1546.4	1544.3	1535.7	1529.3	1525.0	1514.3	1505.7	1490.6	1477.8
22.5°	1510.0	1514.3	1510.0	1505.7	1494.9	1492.8	1486.4	1473.5	1460.7	1443.4	1428.5
25°	1465.0	1462.8	1460.7	1456.4	1447.8	1443.4	1434.9	1422.0	1409.2	1389.8	1372.7
27.5°	1407.1	1398.5	1398.5	1389.8	1383.4	1377.0	1372.7	1359.9	1342.7	1327.6	1306.2
30°	1327.6	1329.8	1319.1	1316.9	1306.2	1302.0	1293.4	1280.4	1265.5	1248.3	1231.2
32.5°	1241.9	1235.5	1235.5	1226.8	1218.2	1211.8	1209.7	1194.7	1181.9	1164.6	1147.5
35°	1141.1	1141.1	1134.7	1132.5	1124.0	1119.7	1113.1	1104.6	1089.6	1074.6	1061.7
37.5°	1042.4	1038.1	1036.0	1031.7	1025.3	1018.9	1018.9	1003.8	1001.6	984.5	967.4
40°	933.0	937.3	933.0	926.6	924.4	920.2	918.0	909.5	903.0	887.9	877.2
42.5°	840.7	836.5	836.5	834.3	825.8	825.8	821.5	817.2	806.5	802.2	789.3
45°	746.5	750.7	744.3	746.5	737.9	737.9	737.9	729.2	720.7	714.2	705.7
47.5°	664.9	667.0	667.0	660.6	658.5	658.5	654.2	649.9	643.5	634.9	628.5
50°	594.1	596.3	592.0	589.9	585.6	583.4	583.4	574.9	570.5	561.9	557.6
52.5°	529.8	529.8	527.7	527.7	521.3	521.3	516.9	510.4	506.2	501.9	491.2
55°	471.9	471.9	469.8	467.6	467.6	461.1	459.0	452.5	448.3	439.7	433.3
57.5°	416.2	418.3	416.2	414.0	411.9	409.7	405.3	398.9	394.6	388.2	383.9
60°	371.1	371.1	368.9	366.8	362.5	360.4	358.2	353.8	347.4	343.1	336.7
62.5°	328.2	326.0	323.9	321.7	317.5	317.5	313.2	308.9	302.5	298.1	293.8
65°	283.1	283.1	281.0	281.0	278.8	274.5	272.4	270.3	261.7	259.6	251.0
67.5°	242.3	244.5	240.2	240.2	235.9	235.9	233.8	227.3	225.2	220.9	216.6
70°	205.9	205.9	205.9	203.8	199.5	197.4	195.2	190.8	188.7	184.4	180.1
72.5°	169.4	169.4	167.3	167.3	165.2	163.0	160.9	156.6	156.6	152.3	148.0
75°	137.3	137.3	135.1	132.9	130.8	130.8	128.6	126.5	122.2	120.1	117.9
77.5°	105.1	105.1	105.1	103.0	100.8	100.8	100.8	96.5	92.3	92.3	90.1
80°	77.2	77.2	75.0	75.0	72.9	72.9	72.9	70.7	68.6	66.5	64.3
82.5°	51.5	51.5	51.5	51.5	49.3	49.3	49.3	47.2	45.1	45.1	45.1
85°	30.1	30.1	30.1	30.1	27.9	27.9	27.9	27.9	27.9	25.7	25.7
87.5°	12.8	10.7	12.8	10.7	12.8	10.7	12.8	10.7	10.7	10.7	10.7
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°	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0
2.5°	1527.2	1525.0	1522.9	1520.7	1520.7	1518.6	1514.3	1512.2	1510.0	1507.9	1507.9
5°	1535.7	1533.6	1529.3	1525.0	1522.9	1518.6	1514.3	1510.0	1505.7	1499.2	1497.1
7.5°	1542.1	1535.7	1531.4	1522.9	1520.7	1516.5	1510.0	1503.6	1494.9	1486.4	1479.9
10°	1542.1	1533.6	1527.2	1516.5	1512.2	1507.9	1499.2	1488.5	1477.8	1469.2	1458.5
12.5°	1537.9	1527.2	1516.5	1505.7	1499.2	1492.8	1479.9	1469.2	1456.4	1443.4	1434.9
15°	1522.9	1510.0	1497.1	1484.2	1477.8	1469.2	1456.4	1441.3	1428.5	1415.6	1400.6
17.5°	1494.9	1482.1	1467.1	1452.1	1443.4	1437.0	1417.8	1407.1	1387.7	1374.8	1362.0
20°	1458.5	1443.4	1424.2	1409.2	1398.5	1392.0	1377.0	1357.7	1342.7	1323.4	1310.5
22.5°	1411.3	1392.0	1372.7	1357.7	1347.0	1338.5	1319.1	1299.8	1287.0	1269.7	1254.8
25°	1355.6	1336.2	1316.9	1295.5	1284.8	1276.2	1259.0	1241.9	1224.7	1205.4	1192.6
27.5°	1289.1	1267.6	1250.5	1231.2	1220.4	1207.5	1188.3	1171.0	1153.9	1141.1	1124.0
30°	1216.1	1192.6	1175.4	1156.1	1145.4	1134.7	1115.3	1098.2	1083.2	1068.2	1059.5
32.5°	1128.2	1111.0	1093.9	1074.6	1066.1	1059.5	1040.3	1023.1	1005.9	993.1	986.6
35°	1044.5	1025.3	1010.2	993.1	982.4	975.9	958.8	943.7	935.1	920.2	911.6
37.5°	956.7	941.6	924.4	907.3	900.8	894.4	881.5	866.5	853.7	842.9	838.6
40°	864.4	851.6	836.5	825.8	819.3	812.9	802.2	791.4	782.8	772.1	767.9
42.5°	776.4	767.9	755.0	742.2	735.6	733.5	720.7	712.1	707.8	703.5	699.3
45°	697.1	684.3	675.6	667.0	660.6	656.3	649.9	643.5	639.2	634.9	630.6
47.5°	619.8	609.1	600.6	594.1	587.7	585.6	581.3	574.9	570.5	570.5	570.5
50°	549.1	540.5	532.0	527.7	525.5	521.3	516.9	514.7	512.6	512.6	512.6
52.5°	486.9	478.3	471.9	467.6	467.6	463.2	459.0	456.8	456.8	456.8	456.8
55°	429.0	422.6	418.3	414.0	409.7	407.5	407.5	407.5	405.3	405.3	407.5
57.5°	377.5	373.2	366.8	362.5	360.4	360.4	358.2	356.1	358.2	360.4	362.5
60°	330.3	326.0	323.9	317.5	317.5	317.5	315.3	315.3	315.3	317.5	319.6
62.5°	287.4	285.2	281.0	278.8	276.7	276.7	274.5	274.5	274.5	274.5	276.7
65°	248.9	244.5	240.2	240.2	240.2	238.0	238.0	233.8	235.9	235.9	233.8
67.5°	212.4	208.1	205.9	203.8	201.7	201.7	199.5	197.4	195.2	195.2	195.2
70°	178.0	173.7	173.7	169.4	169.4	167.3	165.2	165.2	163.0	160.9	158.7
72.5°	143.8	141.6	139.5	137.3	137.3	137.3	135.1	132.9	130.8	128.6	124.4
75°	113.7	113.7	109.4	107.2	107.2	105.1	103.0	100.8	98.7	96.5	94.4
77.5°	88.0	85.8	81.4	79.3	79.3	79.3	77.2	75.0	72.9	70.7	68.6
80°	64.3	62.2	60.0	57.9	57.9	57.9	55.8	55.8	53.6	53.6	53.6
82.5°	42.9	42.9	40.8	40.8	40.8	40.8	38.6	38.6	38.6	38.6	38.6
85°	25.7	25.7	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
87.5°	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
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°	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0
2.5°	1503.6	1503.6	1499.2	1497.1	1494.9	1497.1	1492.8	1490.6	1488.5	1488.5	1486.4
5°	1490.6	1488.5	1479.9	1477.8	1475.7	1473.5	1469.2	1465.0	1460.7	1458.5	1456.4
7.5°	1473.5	1467.1	1458.5	1456.4	1454.3	1447.8	1441.3	1437.0	1430.6	1428.5	1424.2
10°	1450.0	1441.3	1434.9	1428.5	1424.2	1417.8	1411.3	1404.9	1396.4	1394.2	1387.7
12.5°	1422.0	1411.3	1398.5	1396.4	1389.8	1381.3	1372.7	1366.3	1359.9	1355.6	1349.2
15°	1387.7	1377.0	1364.1	1357.7	1351.3	1344.9	1334.1	1325.5	1319.1	1312.7	1306.2
17.5°	1347.0	1334.1	1323.4	1316.9	1312.7	1302.0	1293.4	1282.6	1276.2	1269.7	1263.3
20°	1297.7	1287.0	1271.9	1265.5	1263.3	1254.8	1244.1	1239.8	1231.2	1224.7	1220.4
22.5°	1241.9	1231.2	1218.2	1214.0	1205.4	1201.1	1190.4	1186.1	1181.9	1175.4	1173.2
25°	1179.7	1168.9	1158.2	1156.1	1149.6	1145.4	1138.9	1132.5	1132.5	1126.1	1126.1
27.5°	1115.3	1104.6	1096.0	1091.7	1089.6	1085.3	1078.9	1076.8	1074.6	1072.5	1072.5
30°	1046.7	1033.8	1029.6	1027.4	1025.3	1021.0	1018.9	1014.6	1016.7	1018.9	1016.7
32.5°	973.8	969.5	960.9	956.7	958.8	956.7	952.3	956.7	954.4	958.8	960.9
35°	903.0	898.6	894.4	894.4	890.1	890.1	890.1	892.2	896.5	898.6	903.0
37.5°	834.3	827.9	825.8	823.6	825.8	825.8	825.8	830.0	834.3	838.6	845.0
40°	761.4	757.2	757.2	757.2	757.2	763.6	761.4	765.7	770.0	776.4	782.8
42.5°	692.8	692.8	695.0	695.0	695.0	695.0	699.3	705.7	712.1	718.5	724.9
45°	628.5	628.5	628.5	632.8	632.8	634.9	643.5	647.8	652.0	658.5	664.9
47.5°	568.3	568.3	570.5	572.6	574.9	579.2	583.4	589.9	596.3	600.6	607.0
50°	512.6	514.7	519.1	523.4	523.4	525.5	532.0	536.2	540.5	546.9	549.1
52.5°	459.0	463.2	467.6	469.8	471.9	476.2	478.3	484.8	486.9	493.3	495.5
55°	409.7	411.9	418.3	420.4	420.4	424.7	429.0	433.3	439.7	439.7	444.0
57.5°	364.7	366.8	371.1	373.2	371.1	377.5	379.6	383.9	386.1	390.3	392.5
60°	319.6	323.9	326.0	326.0	328.2	330.3	334.6	334.6	338.9	343.1	343.1
62.5°	276.7	278.8	281.0	283.1	285.2	283.1	289.5	289.5	293.8	295.9	300.2
65°	235.9	238.0	238.0	240.2	240.2	242.3	242.3	244.5	246.7	251.0	253.1
67.5°	195.2	195.2	195.2	197.4	195.2	197.4	197.4	199.5	199.5	203.8	205.9
70°	158.7	156.6	154.5	154.5	154.5	154.5	152.3	154.5	154.5	156.6	156.6
72.5°	122.2	120.1	117.9	115.8	115.8	113.7	111.5	113.7	113.7	115.8	115.8
75°	92.3	88.0	88.0	88.0	85.8	85.8	85.8	88.0	88.0	88.0	90.1
77.5°	68.6	68.6	66.5	66.5	66.5	68.6	68.6	70.7	70.7	70.7	70.7
80°	51.5	53.6	53.6	53.6	53.6	55.8	55.8	55.8	55.8	57.9	57.9
82.5°	38.6	38.6	38.6	38.6	40.8	40.8	40.8	40.8	40.8	40.8	40.8
85°	23.5	25.7	25.7	23.5	25.7	25.7	25.7	25.7	25.7	25.7	25.7
87.5°	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
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: P584353

CATALOG NUMBER: HC830D010-HM82555935-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0
2.5°	1484.2	1484.2	1484.2	1484.2	1482.1	1482.1	1482.1	1479.9
5°	1452.1	1452.1	1452.1	1447.8	1450.0	1450.0	1445.6	1447.8
7.5°	1419.9	1417.8	1415.6	1415.6	1413.5	1411.3	1409.2	1411.3
10°	1383.4	1377.0	1377.0	1374.8	1374.8	1370.6	1370.6	1372.7
12.5°	1342.7	1338.5	1338.5	1336.2	1334.1	1331.9	1329.8	1329.8
15°	1302.0	1297.7	1295.5	1293.4	1291.3	1287.0	1289.1	1287.0
17.5°	1261.2	1254.8	1254.8	1252.6	1250.5	1246.2	1246.2	1244.1
20°	1214.0	1211.8	1207.5	1209.7	1207.5	1203.3	1201.1	1201.1
22.5°	1166.8	1166.8	1164.6	1164.6	1162.5	1160.3	1158.2	1158.2
25°	1121.8	1119.7	1121.8	1121.8	1115.3	1115.3	1115.3	1117.4
27.5°	1070.3	1072.5	1070.3	1070.3	1070.3	1070.3	1072.5	1070.3
30°	1018.9	1018.9	1018.9	1021.0	1025.3	1023.1	1023.1	1021.0
32.5°	963.1	965.2	965.2	967.4	969.5	973.8	973.8	975.9
35°	907.3	911.6	913.7	911.6	918.0	918.0	922.3	922.3
37.5°	849.4	851.6	855.8	858.0	862.3	864.4	866.5	866.5
40°	787.1	795.8	797.9	800.1	806.5	806.5	808.6	812.9
42.5°	729.2	737.9	740.0	742.2	746.5	752.9	750.7	755.0
45°	673.4	679.9	682.0	684.3	690.7	692.8	692.8	699.3
47.5°	613.4	617.7	619.8	624.1	628.5	632.8	637.1	634.9
50°	553.4	559.8	564.1	566.2	572.6	574.9	577.0	579.2
52.5°	499.7	504.0	506.2	508.3	514.7	516.9	519.1	523.4
55°	448.3	450.4	454.7	452.5	459.0	461.1	463.2	467.6
57.5°	396.8	398.9	401.0	401.0	405.3	409.7	411.9	414.0
60°	347.4	351.7	353.8	353.8	353.8	358.2	358.2	358.2
62.5°	302.5	302.5	304.6	304.6	308.9	308.9	308.9	308.9
65°	255.3	257.4	259.6	259.6	263.8	261.7	266.0	263.8
67.5°	205.9	205.9	210.2	210.2	208.1	210.2	210.2	210.2
70°	156.6	156.6	158.7	158.7	158.7	158.7	158.7	158.7
72.5°	115.8	115.8	115.8	117.9	115.8	115.8	117.9	115.8
75°	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1
77.5°	70.7	70.7	72.9	72.9	72.9	72.9	72.9	72.9
80°	57.9	57.9	57.9	57.9	60.0	57.9	57.9	57.9
82.5°	42.9	40.8	42.9	40.8	42.9	42.9	42.9	42.9
85°	25.7	25.7	25.7	25.7	25.7	25.7	25.7	25.7
87.5°	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
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)