

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: P584249

Luminaire Tested: **HC830D010-HM82555827-81WWBB**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584249  
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-HM82555827-81WWBB  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2768.4 lumens  
Efficiency: N/A  
Efficacy: 98.9 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

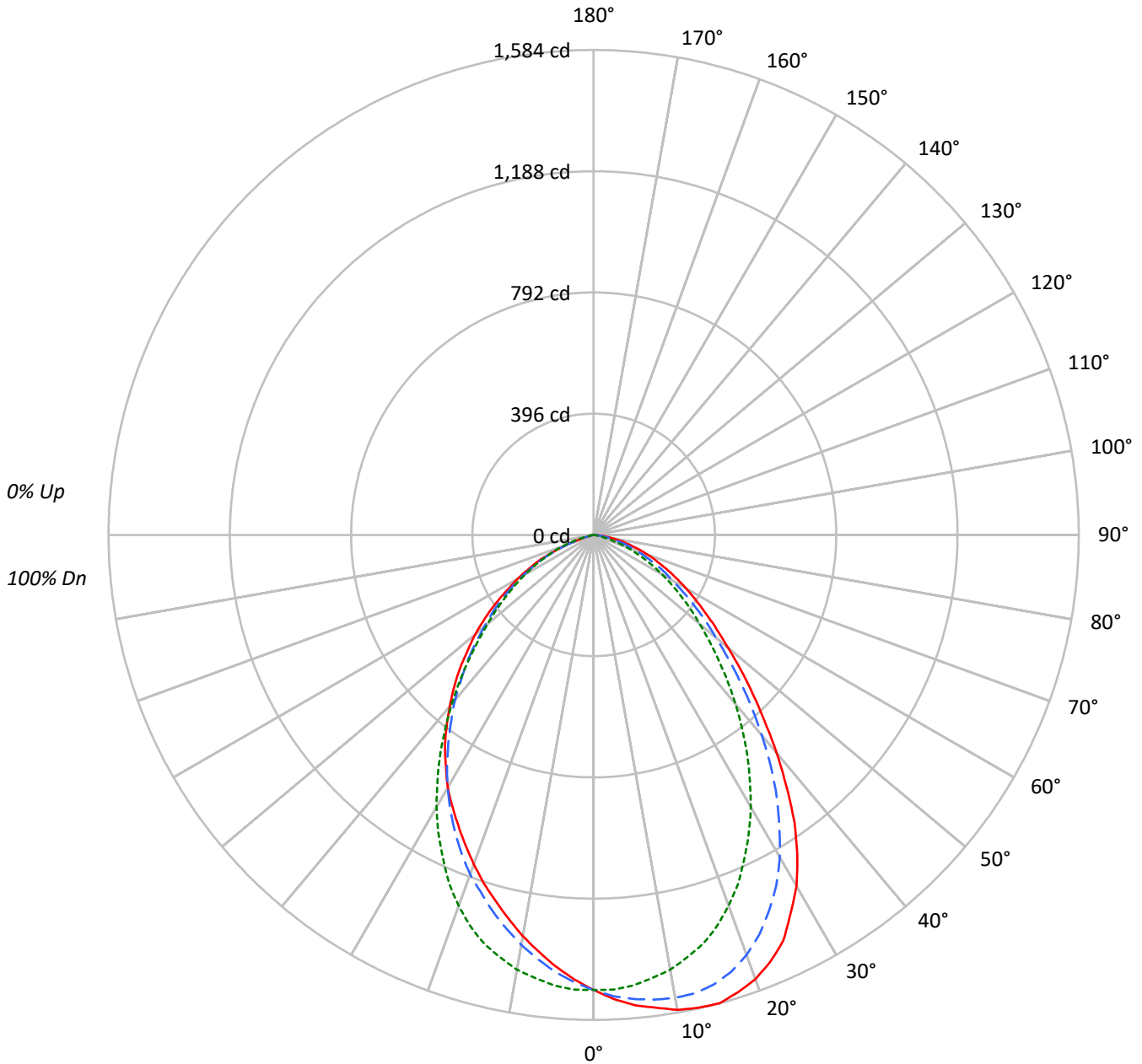
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	45829	45829	45829
5°	47725	45728	43803
10°	49320	45146	41667
15°	50568	44116	39503
20°	50667	42283	37544
25°	49811	39607	35599
30°	47147	36543	33937
35°	42986	32867	31862
40°	37380	28975	29422
45°	32070	25093	26933
50°	27392	21636	24193
55°	24010	18634	21015
60°	21376	15893	17669
65°	18964	12973	14104
70°	16824	9620	8006
75°	14023	5028	2383
80°	11045	1580	408
85°	7855	814	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	140.0	5.1
10°-20°	392.5	14.2
20°-30°	555.6	20.1
30°-40°	581.2	21.0
40°-50°	484.8	17.5
50°-60°	343.8	12.4
60°-70°	198.0	7.2
70°-80°	63.7	2.3
80°-90°	8.8	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°	1088.1	39.3
0°-40°	1669.3	60.3
0°-60°	2497.9	90.2
0°-90°	2768.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2768.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1486	1486	1486	1486	1486	
5°	1542	1522	1477	1433	1415	148
15°	1584	1520	1382	1273	1237	445
25°	1464	1355	1164	1071	1046	668
35°	1142	1042	873	826	846	708
45°	735	675	575	582	618	570
55°	447	400	347	364	391	403
65°	260	218	178	178	193	260
75°	118	87	42	20	20	128
85°	22	11	2	0	0	28
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°	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2
2.5°	1517.3	1515.1	1512.9	1515.1	1512.9	1515.1	1512.9	1512.9	1510.6	1508.5	1508.5
5°	1541.8	1539.5	1539.5	1539.5	1537.4	1535.1	1535.1	1532.9	1528.5	1526.2	1521.8
7.5°	1557.4	1559.5	1559.5	1559.5	1555.1	1555.1	1550.7	1546.2	1541.8	1537.4	1530.7
10°	1575.1	1575.1	1572.9	1570.7	1566.2	1564.0	1561.8	1557.4	1550.7	1541.8	1535.1
12.5°	1581.7	1581.7	1579.6	1575.1	1572.9	1570.7	1568.4	1561.8	1552.8	1541.8	1532.9
15°	1584.0	1579.6	1577.3	1575.1	1570.7	1564.0	1564.0	1555.1	1544.0	1530.7	1519.5
17.5°	1566.2	1568.4	1564.0	1559.5	1552.8	1548.4	1541.8	1535.1	1521.8	1506.2	1495.2
20°	1544.0	1541.8	1539.5	1532.9	1523.9	1521.8	1515.1	1504.0	1492.9	1475.1	1459.6
22.5°	1508.5	1506.2	1501.8	1497.3	1488.5	1484.0	1477.3	1464.0	1448.4	1430.7	1412.9
25°	1464.0	1459.6	1453.0	1444.0	1437.4	1432.9	1424.1	1410.7	1392.9	1372.9	1355.1
27.5°	1392.9	1399.6	1395.2	1381.9	1375.2	1366.3	1364.0	1346.3	1330.7	1310.8	1290.8
30°	1324.1	1324.1	1317.4	1310.8	1299.6	1292.9	1284.1	1270.7	1255.2	1230.7	1215.2
32.5°	1237.4	1235.3	1226.3	1224.1	1215.2	1201.8	1199.7	1181.9	1166.3	1148.6	1128.6
35°	1141.9	1137.4	1128.6	1121.9	1117.4	1110.8	1104.1	1088.5	1073.1	1055.2	1041.9
37.5°	1033.0	1033.0	1030.9	1019.7	1015.3	1010.8	1004.1	988.7	979.7	961.9	948.6
40°	928.6	926.3	919.7	917.6	913.0	906.4	902.0	893.1	879.7	866.4	853.1
42.5°	826.5	828.6	819.8	822.0	813.0	808.6	806.4	793.1	786.4	773.1	762.0
45°	735.4	733.1	728.6	726.5	722.0	717.6	713.2	706.5	695.3	682.0	675.4
47.5°	651.0	644.2	644.2	642.1	639.8	630.9	628.7	622.1	615.4	602.0	593.2
50°	571.0	571.0	571.0	568.7	562.0	559.8	555.4	548.7	542.1	533.1	519.8
52.5°	506.5	506.5	506.5	504.3	495.5	493.2	490.9	482.1	473.2	466.6	457.6
55°	446.6	448.7	446.6	442.1	435.4	435.4	428.8	424.4	415.4	408.8	399.9
57.5°	395.5	395.5	390.9	388.8	384.3	382.1	377.6	373.2	362.2	355.5	344.3
60°	346.6	344.3	344.3	339.9	335.4	331.0	328.8	322.1	317.7	306.5	297.7
62.5°	302.1	302.1	297.7	297.7	288.8	288.8	286.5	279.9	273.2	262.2	257.7
65°	259.9	259.9	257.7	255.5	248.9	246.6	244.3	237.7	231.0	224.4	217.7
67.5°	222.1	222.1	217.7	215.4	211.0	208.8	204.4	200.0	193.3	186.6	179.9
70°	186.6	184.4	182.2	179.9	175.5	173.2	168.8	164.4	157.8	153.3	146.6
72.5°	151.1	151.1	148.9	144.3	142.2	139.9	137.7	133.3	126.6	120.0	115.6
75°	117.7	117.7	117.7	113.3	108.9	106.7	106.7	102.1	97.7	91.1	86.7
77.5°	91.1	88.8	86.7	86.7	82.2	80.0	77.8	75.5	68.8	66.7	62.2
80°	62.2	64.4	62.2	59.9	57.8	55.5	55.5	51.1	48.9	44.5	40.0
82.5°	42.2	40.0	40.0	37.8	37.8	35.6	35.6	31.2	28.9	26.6	24.5
85°	22.2	22.2	20.0	20.0	20.0	17.7	17.7	15.6	15.6	13.3	11.1
87.5°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	4.4	4.4	4.4
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°	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2
2.5°	1506.2	1501.8	1499.6	1499.6	1497.3	1495.2	1492.9	1490.6	1486.2	1486.2	1481.7
5°	1517.3	1512.9	1510.6	1504.0	1499.6	1499.6	1490.6	1488.5	1481.7	1477.3	1472.9
7.5°	1526.2	1517.3	1510.6	1504.0	1499.6	1495.2	1486.2	1477.3	1468.4	1459.6	1455.1
10°	1526.2	1517.3	1506.2	1495.2	1490.6	1486.2	1475.1	1461.8	1450.7	1441.8	1430.7
12.5°	1521.8	1508.5	1495.2	1486.2	1477.3	1470.7	1457.4	1444.0	1430.7	1412.9	1404.1
15°	1508.5	1490.6	1477.3	1461.8	1455.1	1444.0	1432.9	1412.9	1397.3	1381.9	1370.7
17.5°	1481.7	1459.6	1444.0	1428.5	1417.4	1410.7	1392.9	1375.2	1357.4	1339.6	1326.3
20°	1441.8	1421.8	1404.1	1384.0	1375.2	1366.3	1344.0	1326.3	1308.5	1288.5	1275.2
22.5°	1392.9	1372.9	1348.4	1333.0	1319.7	1308.5	1288.5	1268.5	1250.7	1233.0	1215.2
25°	1333.0	1312.9	1290.8	1266.3	1257.4	1246.3	1224.1	1204.1	1184.1	1164.1	1148.6
27.5°	1268.5	1241.9	1224.1	1197.4	1188.5	1177.5	1153.0	1130.7	1113.0	1097.4	1079.7
30°	1190.8	1170.8	1146.3	1121.9	1113.0	1101.8	1081.9	1061.9	1044.2	1026.3	1008.6
32.5°	1106.4	1086.4	1061.9	1044.2	1030.9	1021.9	1002.0	984.1	966.4	948.6	933.0
35°	1017.4	995.3	977.5	959.8	948.6	937.5	917.6	902.0	888.7	873.1	857.5
37.5°	926.3	910.9	893.1	873.1	862.0	853.1	837.5	819.8	808.6	795.3	784.3
40°	837.5	819.8	804.2	786.4	777.6	770.8	755.4	742.1	730.9	719.8	713.2
42.5°	746.5	730.9	715.3	704.2	697.6	690.9	679.8	664.3	657.6	646.5	639.8
45°	662.0	648.7	637.5	622.1	617.6	613.2	599.9	588.7	582.0	575.4	571.0
47.5°	582.0	573.2	559.8	551.0	544.3	539.8	531.0	522.1	515.4	510.9	506.5
50°	513.2	502.1	493.2	484.3	479.9	473.2	464.3	459.9	455.4	451.0	451.0
52.5°	448.7	437.7	428.8	422.1	417.7	413.2	406.5	404.4	399.9	399.9	397.7
55°	388.8	382.1	373.2	364.3	362.2	359.9	355.5	351.0	348.7	346.6	348.7
57.5°	337.7	331.0	322.1	315.4	313.2	311.0	308.8	304.4	302.1	302.1	302.1
60°	291.1	284.4	277.8	271.0	271.0	266.6	264.3	262.2	259.9	257.7	257.7
62.5°	248.9	242.2	235.5	231.0	228.8	226.6	222.1	220.0	217.7	217.7	215.4
65°	211.0	202.1	200.0	193.3	191.1	188.8	186.6	182.2	179.9	177.8	175.5
67.5°	173.2	168.8	162.2	157.8	155.5	153.3	151.1	146.6	144.3	142.2	137.7
70°	139.9	135.5	131.0	126.6	124.4	122.2	117.7	113.3	111.1	106.7	100.0
72.5°	108.9	104.4	100.0	95.5	93.3	91.1	86.7	82.2	77.8	73.4	68.8
75°	82.2	77.8	71.1	66.7	64.4	64.4	57.8	53.3	48.9	42.2	37.8
77.5°	57.8	51.1	48.9	44.5	42.2	37.8	33.3	28.9	24.5	22.2	17.7
80°	37.8	33.3	28.9	26.6	24.5	22.2	20.0	15.6	11.1	8.9	6.7
82.5°	22.2	20.0	17.7	15.6	13.3	11.1	8.9	8.9	6.7	4.4	2.3
85°	11.1	8.9	6.7	6.7	4.4	4.4	4.4	2.3	2.3	2.3	2.3
87.5°	4.4	2.3	2.3	2.3	2.3	2.3	2.3	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°	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2
2.5°	1479.6	1477.3	1475.1	1472.9	1472.9	1468.4	1468.4	1466.3	1461.8	1459.6	1459.6
5°	1466.3	1459.6	1455.1	1453.0	1450.7	1444.0	1441.8	1437.4	1432.9	1428.5	1426.2
7.5°	1446.3	1435.1	1430.7	1428.5	1421.8	1415.1	1410.7	1404.1	1397.3	1390.7	1388.5
10°	1421.8	1410.7	1399.6	1395.2	1388.5	1384.0	1375.2	1366.3	1359.6	1353.0	1346.3
12.5°	1390.7	1377.3	1366.3	1361.9	1355.1	1346.3	1333.0	1328.5	1317.4	1312.9	1304.1
15°	1355.1	1339.6	1328.5	1321.8	1315.2	1301.8	1292.9	1284.1	1272.9	1268.5	1259.6
17.5°	1310.8	1292.9	1281.9	1275.2	1270.7	1259.6	1246.3	1235.3	1224.1	1219.7	1213.0
20°	1257.4	1246.3	1230.7	1224.1	1219.7	1206.4	1193.0	1188.5	1179.6	1170.8	1164.1
22.5°	1197.4	1186.3	1170.8	1164.1	1161.9	1150.8	1139.7	1133.0	1126.3	1119.7	1113.0
25°	1135.3	1121.9	1108.6	1104.1	1099.7	1090.8	1081.9	1077.5	1070.8	1066.4	1061.9
27.5°	1068.6	1055.2	1044.2	1037.5	1033.0	1026.3	1021.9	1017.4	1013.0	1008.6	1006.4
30°	997.5	984.1	975.2	970.8	966.4	964.2	957.5	955.2	953.1	948.6	950.8
32.5°	926.3	915.3	906.4	899.7	899.7	895.3	893.1	893.1	890.8	890.8	890.8
35°	848.6	841.9	835.3	833.1	830.9	828.6	826.5	828.6	826.5	828.6	830.9
37.5°	777.6	770.8	766.4	764.2	762.0	764.2	762.0	762.0	764.2	768.7	770.8
40°	704.2	699.8	695.3	697.6	695.3	695.3	695.3	702.0	704.2	706.5	708.6
42.5°	635.4	630.9	628.7	628.7	630.9	628.7	633.1	635.4	639.8	646.5	651.0
45°	568.7	566.6	566.6	568.7	566.6	571.0	571.0	575.4	582.0	586.5	590.9
47.5°	506.5	506.5	506.5	508.8	508.8	510.9	515.4	517.6	522.1	526.5	531.0
50°	448.7	451.0	453.2	453.2	453.2	457.6	462.0	464.3	466.6	468.7	475.4
52.5°	397.7	399.9	399.9	402.1	404.4	406.5	408.8	413.2	415.4	419.8	422.1
55°	348.7	348.7	353.3	355.5	355.5	355.5	359.9	359.9	364.3	366.6	371.0
57.5°	302.1	304.4	304.4	306.5	306.5	308.8	311.0	313.2	315.4	317.7	320.0
60°	257.7	257.7	257.7	259.9	262.2	264.3	262.2	266.6	266.6	271.0	273.2
62.5°	215.4	217.7	217.7	217.7	217.7	217.7	217.7	220.0	222.1	224.4	226.6
65°	175.5	175.5	175.5	173.2	175.5	173.2	175.5	177.8	177.8	179.9	182.2
67.5°	135.5	135.5	131.0	131.0	133.3	133.3	133.3	133.3	131.0	135.5	135.5
70°	97.7	95.5	93.3	91.1	91.1	88.8	88.8	86.7	86.7	86.7	86.7
72.5°	64.4	59.9	55.5	53.3	51.1	51.1	46.6	44.5	46.6	46.6	46.6
75°	33.3	28.9	26.6	24.5	22.2	22.2	20.0	20.0	20.0	20.0	20.0
77.5°	13.3	11.1	8.9	8.9	6.7	6.7	6.7	6.7	6.7	6.7	6.7
80°	4.4	4.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
82.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
85°	2.3	0.0	0.0	2.3	0.0	2.3	2.3	2.3	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: P584249

CATALOG NUMBER: HC830D010-HM82555827-81WWBB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2	1486.2
2.5°	1457.4	1457.4	1455.1	1457.4	1453.0	1455.1	1453.0	1453.0
5°	1424.1	1419.5	1419.5	1419.5	1417.4	1417.4	1415.1	1415.1
7.5°	1384.0	1381.9	1379.6	1377.3	1375.2	1372.9	1372.9	1372.9
10°	1344.0	1339.6	1339.6	1337.4	1333.0	1330.7	1330.7	1330.7
12.5°	1297.4	1295.2	1292.9	1292.9	1284.1	1286.3	1284.1	1284.1
15°	1253.0	1250.7	1250.7	1244.1	1239.7	1239.7	1239.7	1237.4
17.5°	1206.4	1204.1	1201.8	1197.4	1193.0	1193.0	1190.8	1193.0
20°	1157.5	1155.2	1150.8	1150.8	1148.6	1146.3	1141.9	1144.1
22.5°	1108.6	1104.1	1101.8	1101.8	1099.7	1099.7	1095.2	1095.2
25°	1057.5	1055.2	1053.0	1055.2	1050.8	1050.8	1046.3	1046.3
27.5°	1004.1	1002.0	1002.0	1002.0	999.7	1002.0	999.7	999.7
30°	950.8	950.8	948.6	948.6	950.8	948.6	950.8	953.1
32.5°	893.1	893.1	895.3	895.3	897.5	897.5	897.5	897.5
35°	833.1	837.5	837.5	839.8	841.9	844.2	844.2	846.4
37.5°	777.6	779.7	782.0	784.3	788.7	788.7	788.7	788.7
40°	717.6	719.8	724.2	722.0	730.9	733.1	730.9	730.9
42.5°	655.4	659.8	662.0	666.4	668.7	673.1	675.4	675.4
45°	597.6	599.9	604.2	608.8	610.9	617.6	617.6	617.6
47.5°	537.7	542.1	544.3	548.7	551.0	557.6	559.8	557.6
50°	479.9	484.3	488.8	488.8	495.5	497.6	502.1	504.3
52.5°	424.4	426.5	431.0	433.2	437.7	442.1	444.3	446.6
55°	371.0	373.2	377.6	377.6	384.3	386.5	390.9	390.9
57.5°	322.1	324.4	328.8	326.6	331.0	335.4	335.4	333.3
60°	275.5	275.5	275.5	279.9	282.1	284.4	286.5	286.5
62.5°	226.6	231.0	233.3	233.3	235.5	237.7	237.7	235.5
65°	182.2	186.6	188.8	188.8	191.1	191.1	191.1	193.3
67.5°	137.7	137.7	137.7	139.9	137.7	137.7	137.7	137.7
70°	86.7	86.7	86.7	86.7	84.4	86.7	86.7	88.8
72.5°	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6
75°	20.0	20.0	20.0	22.2	20.0	20.0	20.0	20.0
77.5°	8.9	6.7	8.9	8.9	6.7	6.7	6.7	6.7
80°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
82.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
85°	0.0	2.3	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)