

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: P584242

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

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584242  
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-HM82555827-81RWWC  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3163.9 lumens  
Efficiency: N/A  
Efficacy: 113.0 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

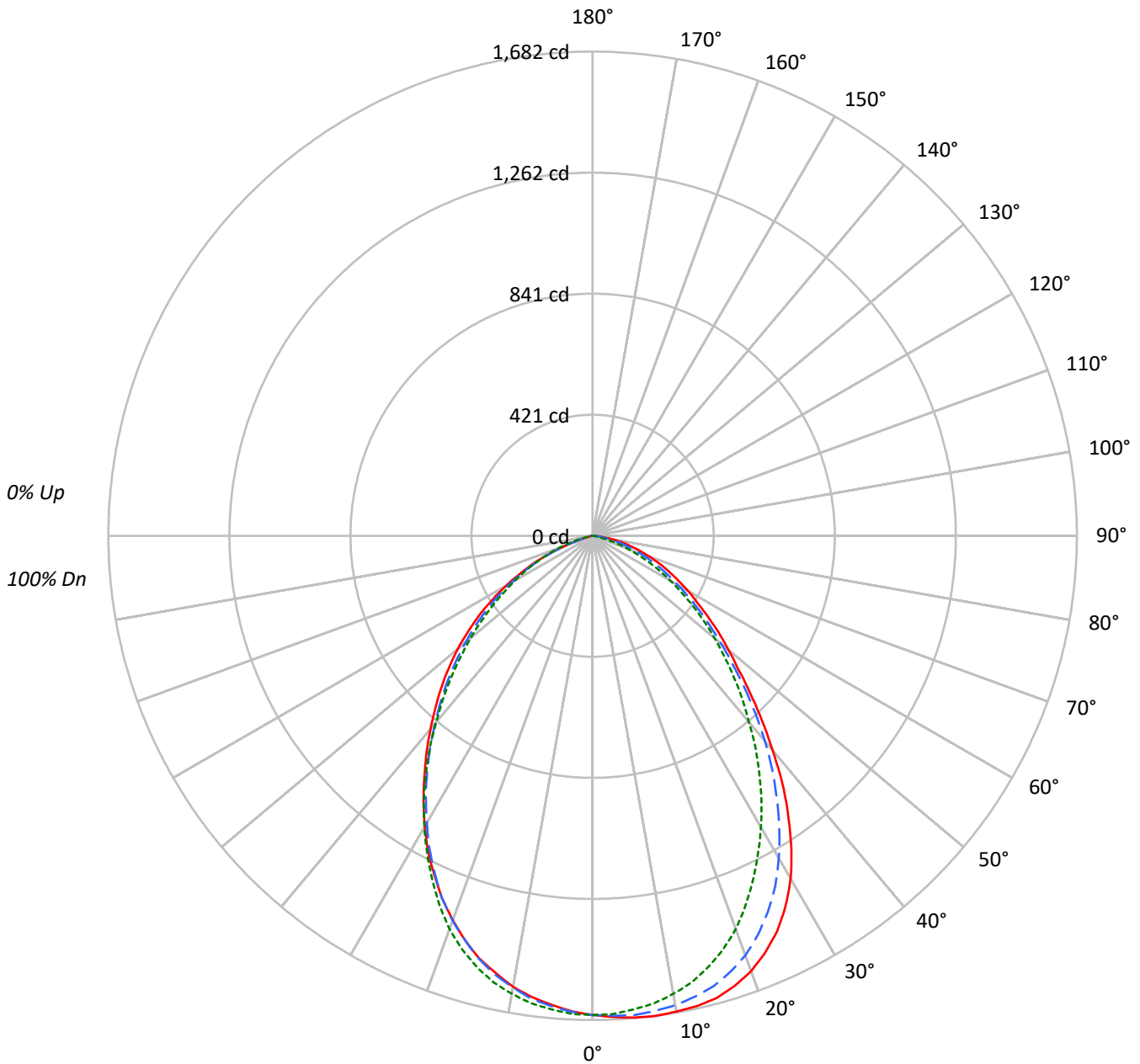
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				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	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°	51333	51333	51333
5°	52012	51118	50635
10°	52542	50597	49830
15°	53074	49527	48534
20°	52806	47700	46608
25°	51570	44844	44238
30°	48988	41624	41468
35°	44593	37987	38318
40°	39099	33994	35250
45°	33727	30239	32371
50°	29537	26548	29326
55°	26171	22822	25811
60°	23577	19193	21382
65°	21247	15410	16381
70°	18627	11225	9016
75°	15894	5826	2383
80°	12217	1580	408
85°	7855	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	157.1	5.0
10°-20°	441.5	14.0
20°-30°	626.7	19.8
30°-40°	659.7	20.9
40°-50°	561.2	17.7
50°-60°	405.5	12.8
60°-70°	230.7	7.3
70°-80°	72.7	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°	1225.3	38.7
0°-40°	1885.0	59.6
0°-60°	2851.7	90.1
0°-90°	3163.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3163.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1665	1665	1665	1665	1665	
5°	1680	1671	1651	1640	1636	160
15°	1662	1620	1551	1522	1520	468
25°	1516	1440	1318	1296	1300	694
35°	1185	1116	1009	1002	1018	737
45°	773	745	693	711	742	601
55°	487	451	424	449	480	439
65°	291	251	211	209	224	289
75°	133	102	49	22	20	143
85°	22	13	0	0	0	29
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°	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7
2.5°	1673.6	1675.8	1671.4	1671.4	1675.8	1671.4	1673.6	1673.6	1671.4	1671.4	1669.1
5°	1680.3	1678.0	1678.0	1678.0	1680.3	1675.8	1673.6	1675.8	1671.4	1671.4	1671.4
7.5°	1682.4	1682.4	1680.3	1678.0	1678.0	1678.0	1675.8	1673.6	1671.4	1667.0	1664.7
10°	1678.0	1678.0	1680.3	1675.8	1675.8	1671.4	1671.4	1667.0	1667.0	1662.5	1655.8
12.5°	1673.6	1671.4	1671.4	1667.0	1667.0	1662.5	1662.5	1655.8	1653.5	1646.9	1640.2
15°	1662.5	1660.2	1655.8	1653.5	1651.4	1649.1	1644.7	1642.5	1635.8	1626.9	1620.3
17.5°	1640.2	1638.1	1635.8	1631.3	1626.9	1624.6	1622.5	1615.9	1606.9	1600.3	1589.1
20°	1609.2	1606.9	1606.9	1600.3	1598.0	1591.4	1589.1	1580.3	1573.5	1560.2	1551.4
22.5°	1566.9	1569.1	1564.7	1560.2	1555.8	1549.1	1544.6	1535.8	1524.7	1511.3	1500.3
25°	1515.7	1518.0	1513.6	1509.1	1502.4	1498.0	1493.6	1480.2	1469.1	1453.6	1440.2
27.5°	1451.3	1451.3	1451.3	1446.9	1435.8	1433.6	1429.1	1415.7	1400.2	1386.8	1373.5
30°	1375.8	1373.5	1373.5	1366.9	1362.5	1353.6	1346.9	1335.7	1324.7	1309.1	1293.5
32.5°	1284.6	1286.9	1280.2	1275.8	1269.1	1269.1	1260.2	1251.3	1238.0	1222.4	1206.8
35°	1184.6	1186.9	1182.5	1180.2	1169.0	1166.9	1164.6	1153.6	1144.7	1133.5	1115.8
37.5°	1082.3	1080.2	1077.9	1077.9	1071.3	1066.9	1062.4	1055.7	1042.4	1033.5	1024.6
40°	971.3	971.3	971.3	969.0	966.8	962.4	960.1	955.7	946.8	937.9	931.2
42.5°	871.3	871.3	869.0	866.8	862.4	864.5	860.1	855.7	846.8	840.1	835.6
45°	773.4	773.4	773.4	775.7	771.2	764.5	764.5	760.1	755.7	751.2	744.6
47.5°	686.8	693.4	689.0	686.8	689.0	680.1	680.1	675.7	671.2	666.8	657.9
50°	615.7	615.7	615.7	611.3	609.0	609.0	602.3	597.8	595.7	591.2	582.4
52.5°	551.2	546.7	546.7	544.6	542.3	537.9	537.9	533.4	524.5	520.1	513.4
55°	486.8	486.8	484.5	482.3	480.1	477.9	475.6	468.9	464.5	457.9	451.2
57.5°	429.0	433.4	431.1	426.7	422.3	422.3	417.8	413.4	406.8	400.1	393.4
60°	382.3	380.0	380.0	377.9	373.3	371.2	368.9	362.3	355.6	349.0	342.3
62.5°	333.4	333.4	333.4	329.0	324.5	322.2	320.1	315.6	306.8	300.1	295.6
65°	291.2	288.9	286.7	284.5	282.3	277.9	275.6	271.2	264.4	257.8	251.1
67.5°	249.0	246.7	246.7	244.5	237.8	235.5	235.5	228.9	222.2	215.6	208.9
70°	206.6	206.6	206.6	202.2	200.0	197.8	195.6	191.2	184.4	177.8	171.1
72.5°	171.1	169.0	169.0	166.7	160.0	157.8	155.5	151.1	144.5	140.1	135.5
75°	133.4	133.4	131.1	128.9	126.6	124.5	122.2	117.8	111.2	104.5	102.3
77.5°	102.3	100.0	100.0	97.7	93.3	91.1	91.1	86.7	80.0	75.6	71.1
80°	68.8	71.1	68.8	66.7	64.4	62.2	60.0	57.8	53.4	48.9	44.5
82.5°	42.2	44.5	42.2	42.2	40.0	37.8	37.8	33.3	31.2	28.9	26.6
85°	22.2	22.2	22.2	22.2	20.0	20.0	20.0	17.8	15.6	13.3	13.3
87.5°	6.7	8.9	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°	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7
2.5°	1671.4	1669.1	1667.0	1667.0	1667.0	1667.0	1667.0	1664.7	1662.5	1662.5	1662.5
5°	1667.0	1667.0	1667.0	1664.7	1662.5	1662.5	1658.1	1655.8	1653.5	1651.4	1649.1
7.5°	1662.5	1658.1	1655.8	1653.5	1651.4	1651.4	1646.9	1642.5	1642.5	1638.1	1633.6
10°	1649.1	1646.9	1642.5	1638.1	1635.8	1633.6	1629.2	1622.5	1620.3	1615.9	1611.3
12.5°	1633.6	1629.2	1624.6	1615.9	1613.6	1611.3	1602.4	1595.8	1591.4	1589.1	1578.0
15°	1613.6	1604.7	1598.0	1587.0	1584.7	1580.3	1573.5	1566.9	1558.1	1551.4	1546.9
17.5°	1578.0	1569.1	1558.1	1546.9	1542.5	1542.5	1531.3	1522.5	1511.3	1506.9	1498.0
20°	1535.8	1524.7	1515.7	1502.4	1495.8	1489.1	1482.4	1469.1	1460.2	1453.6	1442.5
22.5°	1486.8	1471.4	1460.2	1446.9	1435.8	1429.1	1418.0	1406.9	1395.8	1389.1	1380.2
25°	1424.7	1411.3	1393.5	1380.2	1373.5	1364.6	1351.3	1340.2	1329.1	1318.0	1313.5
27.5°	1355.8	1338.0	1322.4	1306.8	1300.2	1293.5	1277.9	1264.6	1255.7	1244.6	1240.2
30°	1280.2	1262.4	1244.6	1231.3	1224.7	1213.5	1204.6	1189.1	1177.9	1169.0	1158.0
32.5°	1193.5	1180.2	1164.6	1144.7	1140.1	1131.3	1117.9	1111.2	1097.9	1091.3	1082.3
35°	1100.2	1091.3	1075.7	1060.1	1053.5	1049.1	1038.0	1024.6	1015.8	1009.1	1004.6
37.5°	1011.2	1000.2	984.6	973.4	969.0	962.4	949.1	942.4	933.5	929.1	920.2
40°	915.6	904.6	893.4	886.8	880.1	875.7	866.8	860.1	851.2	844.5	842.4
42.5°	822.3	815.7	806.7	797.9	795.7	789.0	784.6	777.8	771.2	769.0	762.4
45°	737.9	731.2	722.3	713.4	711.3	706.7	704.6	697.9	693.4	693.4	693.4
47.5°	653.5	646.8	637.9	633.4	635.6	626.7	626.7	624.6	620.1	620.1	622.3
50°	577.9	568.9	566.8	562.3	557.9	553.4	555.6	549.0	549.0	553.4	551.2
52.5°	506.8	497.8	495.6	491.2	488.9	488.9	486.8	486.8	484.5	486.8	486.8
55°	442.3	435.6	431.1	426.7	424.5	424.5	424.5	422.3	420.1	424.5	426.7
57.5°	384.5	382.3	377.9	371.2	368.9	366.7	364.5	364.5	364.5	364.5	366.7
60°	333.4	329.0	324.5	317.8	317.8	315.6	313.4	311.2	311.2	311.2	311.2
62.5°	288.9	282.3	275.6	271.2	269.0	266.7	264.4	260.0	260.0	260.0	260.0
65°	244.5	237.8	233.4	228.9	224.5	224.5	220.1	217.8	213.4	211.2	206.6
67.5°	202.2	197.8	193.3	186.7	184.4	182.3	177.8	175.6	169.0	166.7	164.4
70°	164.4	157.8	153.4	148.9	146.7	142.2	137.8	133.4	128.9	124.5	120.0
72.5°	128.9	122.2	117.8	113.3	108.9	108.9	102.3	97.7	91.1	86.7	80.0
75°	95.6	88.9	84.4	77.8	75.6	73.4	66.7	62.2	55.5	48.9	44.5
77.5°	64.4	60.0	55.5	48.9	44.5	44.5	37.8	33.3	28.9	22.2	20.0
80°	40.0	35.6	31.2	26.6	26.6	22.2	20.0	15.6	11.1	8.9	6.7
82.5°	22.2	20.0	17.8	13.3	13.3	11.1	8.9	6.7	4.4	2.3	2.3
85°	11.1	8.9	6.7	6.7	4.4	4.4	4.4	2.3	2.3	0.0	0.0
87.5°	4.4	2.3	2.3	2.3	2.3	2.3	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°	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7
2.5°	1660.2	1660.2	1658.1	1658.1	1658.1	1655.8	1658.1	1655.8	1655.8	1655.8	1658.1
5°	1651.4	1646.9	1646.9	1644.7	1644.7	1642.5	1644.7	1642.5	1640.2	1638.1	1640.2
7.5°	1633.6	1629.2	1626.9	1624.6	1624.6	1624.6	1622.5	1620.3	1622.5	1615.9	1620.3
10°	1609.2	1606.9	1602.4	1600.3	1598.0	1600.3	1598.0	1593.6	1593.6	1593.6	1591.4
12.5°	1578.0	1573.5	1571.4	1569.1	1564.7	1564.7	1566.9	1562.5	1562.5	1558.1	1558.1
15°	1540.2	1535.8	1531.3	1531.3	1526.9	1526.9	1524.7	1524.7	1522.5	1520.3	1520.3
17.5°	1493.6	1486.8	1482.4	1484.7	1482.4	1480.2	1480.2	1475.8	1473.5	1475.8	1475.8
20°	1438.0	1433.6	1429.1	1431.3	1426.9	1424.7	1426.9	1420.3	1422.4	1422.4	1422.4
22.5°	1375.8	1373.5	1366.9	1366.9	1362.5	1360.2	1362.5	1362.5	1364.6	1362.5	1362.5
25°	1306.8	1302.4	1298.0	1298.0	1295.8	1293.5	1295.8	1298.0	1295.8	1298.0	1298.0
27.5°	1233.5	1226.8	1226.8	1222.4	1222.4	1224.7	1222.4	1224.7	1226.8	1226.8	1231.3
30°	1153.6	1151.3	1149.0	1146.8	1146.8	1149.0	1149.0	1149.0	1151.3	1155.7	1155.7
32.5°	1077.9	1073.5	1069.0	1069.0	1073.5	1071.3	1073.5	1073.5	1077.9	1077.9	1082.3
35°	995.7	995.7	991.3	993.5	993.5	993.5	993.5	997.9	1002.3	1004.6	1009.1
37.5°	920.2	913.5	915.6	915.6	917.9	915.6	922.3	922.3	926.8	926.8	931.2
40°	837.9	837.9	840.1	837.9	840.1	840.1	844.5	849.1	851.2	855.7	857.9
42.5°	760.1	764.5	760.1	762.4	764.5	766.8	769.0	771.2	780.1	784.6	791.3
45°	689.0	691.2	693.4	695.7	693.4	697.9	700.1	704.6	711.3	713.4	715.7
47.5°	620.1	622.3	624.6	626.7	626.7	631.2	633.4	637.9	642.3	644.6	646.8
50°	553.4	557.9	560.1	560.1	562.3	566.8	571.2	571.2	575.6	582.4	584.5
52.5°	493.4	493.4	497.8	500.1	502.4	502.4	509.0	511.2	513.4	517.8	522.3
55°	426.7	433.4	435.6	435.6	440.0	444.6	446.7	449.0	449.0	457.9	457.9
57.5°	368.9	371.2	375.6	375.6	375.6	382.3	382.3	386.8	388.9	391.2	395.6
60°	311.2	315.6	315.6	317.8	315.6	320.1	322.2	326.7	329.0	331.1	333.4
62.5°	257.8	257.8	260.0	260.0	260.0	260.0	264.4	264.4	269.0	271.2	273.4
65°	206.6	206.6	206.6	206.6	206.6	206.6	206.6	206.6	208.9	208.9	213.4
67.5°	160.0	157.8	153.4	155.5	153.4	153.4	151.1	151.1	153.4	153.4	157.8
70°	115.6	113.3	108.9	108.9	106.7	104.5	102.3	100.0	97.7	97.7	97.7
72.5°	75.6	71.1	64.4	62.2	62.2	57.8	53.4	51.1	51.1	51.1	51.1
75°	37.8	33.3	28.9	26.6	26.6	22.2	24.5	22.2	22.2	22.2	22.2
77.5°	15.6	11.1	8.9	8.9	8.9	6.7	6.7	6.7	6.7	6.7	6.7
80°	4.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
82.5°	2.3	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: P584242

CATALOG NUMBER: HC830D010-HM82555827-81RWWC

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7
2.5°	1655.8	1655.8	1651.4	1653.5	1653.5	1653.5	1653.5	1653.5
5°	1635.8	1638.1	1635.8	1638.1	1638.1	1635.8	1635.8	1635.8
7.5°	1615.9	1618.0	1615.9	1618.0	1618.0	1618.0	1615.9	1615.9
10°	1591.4	1591.4	1591.4	1591.4	1591.4	1589.1	1591.4	1591.4
12.5°	1558.1	1558.1	1558.1	1560.2	1560.2	1558.1	1558.1	1555.8
15°	1522.5	1518.0	1520.3	1522.5	1520.3	1520.3	1520.3	1520.3
17.5°	1473.5	1475.8	1473.5	1473.5	1473.5	1473.5	1475.8	1473.5
20°	1422.4	1422.4	1424.7	1422.4	1422.4	1422.4	1422.4	1420.3
22.5°	1364.6	1362.5	1362.5	1364.6	1364.6	1362.5	1364.6	1364.6
25°	1300.2	1302.4	1300.2	1300.2	1302.4	1302.4	1302.4	1300.2
27.5°	1231.3	1233.5	1235.7	1233.5	1233.5	1233.5	1235.7	1238.0
30°	1160.2	1164.6	1160.2	1160.2	1164.6	1162.4	1164.6	1164.6
32.5°	1084.6	1091.3	1086.9	1091.3	1091.3	1093.5	1091.3	1093.5
35°	1009.1	1015.8	1015.8	1015.8	1017.9	1020.2	1020.2	1017.9
37.5°	937.9	940.1	940.1	944.5	946.8	949.1	949.1	946.8
40°	864.5	869.0	871.3	871.3	871.3	875.7	880.1	875.7
42.5°	793.4	795.7	797.9	797.9	802.3	804.6	806.7	806.7
45°	724.6	729.0	731.2	733.5	735.6	740.2	737.9	742.3
47.5°	653.5	660.1	662.3	664.5	669.1	671.2	673.4	675.7
50°	589.0	593.4	593.4	597.8	604.5	604.5	609.0	611.3
52.5°	524.5	526.7	529.0	531.2	535.6	540.0	540.0	544.6
55°	462.3	464.5	464.5	466.7	468.9	477.9	480.1	480.1
57.5°	397.8	397.8	402.2	404.5	406.8	411.2	411.2	411.2
60°	335.7	337.8	337.8	340.1	342.3	346.7	349.0	346.7
62.5°	273.4	275.6	275.6	277.9	282.3	284.5	282.3	282.3
65°	215.6	217.8	217.8	220.1	224.5	224.5	222.2	224.5
67.5°	157.8	157.8	157.8	157.8	157.8	157.8	157.8	157.8
70°	100.0	97.7	95.6	97.7	97.7	97.7	95.6	100.0
72.5°	48.9	51.1	51.1	51.1	51.1	51.1	51.1	48.9
75°	22.2	22.2	20.0	20.0	20.0	22.2	22.2	20.0
77.5°	6.7	6.7	6.7	6.7	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°	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)