

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: P593666

Luminaire Tested: **HC830D010-HM82555850-81WWBB**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P593666  
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-HM82555850-81WWBB  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3103.7 lumens  
Efficiency: N/A  
Efficacy: 110.8 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

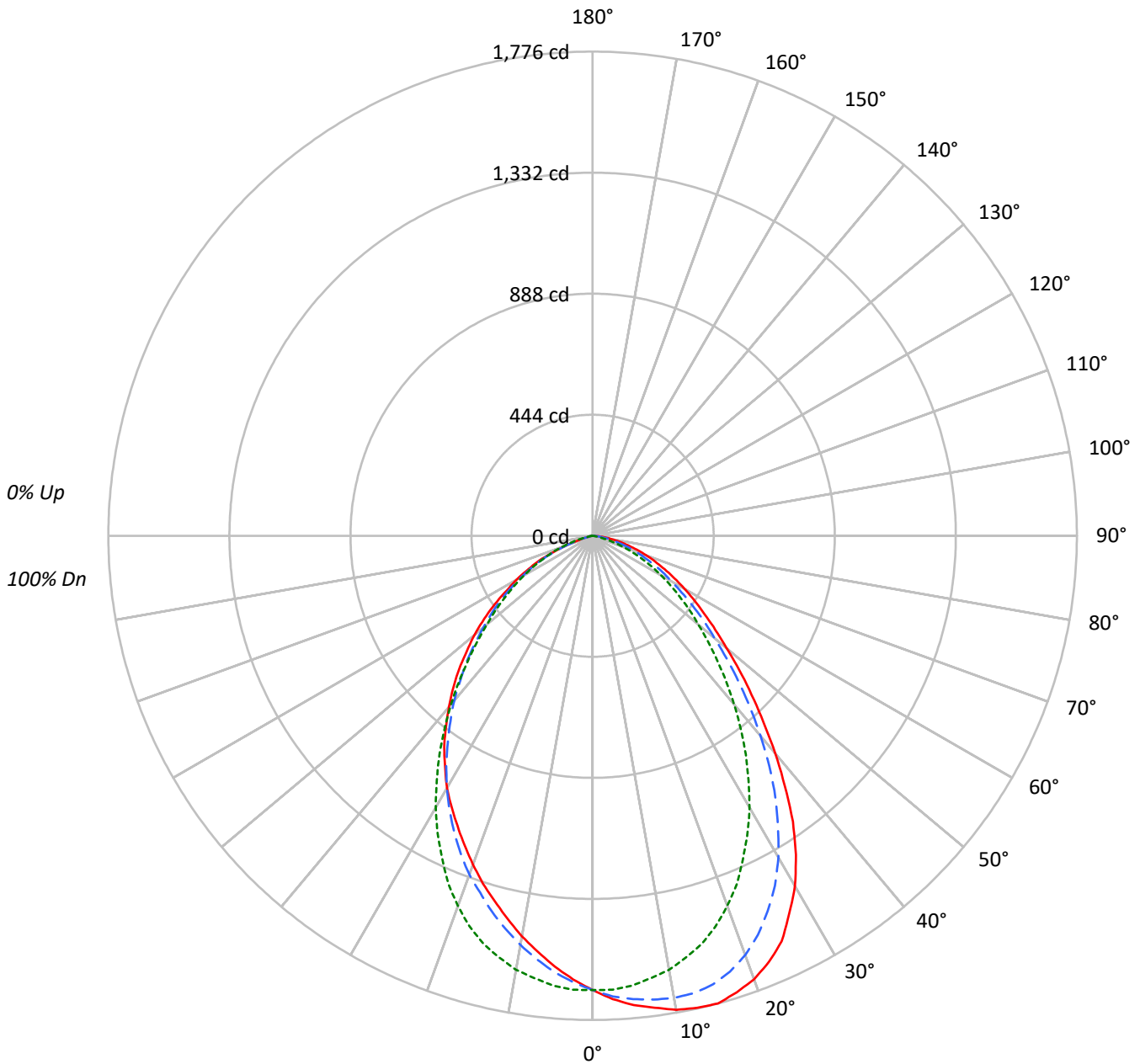
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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			100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88			88
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77			77
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67			67
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59			59
5	82	70	63	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53			53
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	58	53	49	47			47
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	49	44	43			43
8	66	54	46	41	65	53	46	41	52	46	41	51	45	41	50	44	40	39			39
9	62	50	43	37	61	50	42	37	48	42	37	47	41	37	46	41	37	35			35
10	59	47	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32			32

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

	0°	90°	180°
0°	51383	51383	51383
5°	53501	51269	49109
10°	55291	50613	46711
15°	56691	49454	44285
20°	56800	47402	42092
25°	55844	44401	39914
30°	52851	40969	38042
35°	48192	36846	35721
40°	41908	32485	32988
45°	35947	28128	30195
50°	30703	24255	27124
55°	26913	20892	23569
60°	23966	17817	19815
65°	21262	14542	15804
70°	18870	10774	8980
75°	15727	5635	2681
80°	12395	1776	444
85°	8810	885	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	157.0	5.1
10°-20°	440.0	14.2
20°-30°	622.8	20.1
30°-40°	651.6	21.0
40°-50°	543.5	17.5
50°-60°	385.4	12.4
60°-70°	222.0	7.2
70°-80°	71.4	2.3
80°-90°	9.8	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°	1219.9	39.3
0°-40°	1871.5	60.3
0°-60°	2800.4	90.2
0°-90°	3103.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3103.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1666	1666	1666	1666	1666	
5°	1728	1706	1656	1606	1586	166
15°	1776	1704	1549	1427	1387	499
25°	1641	1519	1305	1200	1173	749
35°	1280	1168	979	926	949	794
45°	824	757	645	652	692	639
55°	501	448	389	408	438	452
65°	291	244	199	199	217	291
75°	132	97	47	22	22	143
85°	25	12	2	0	0	31
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°	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3
2.5°	1701.1	1698.6	1696.1	1698.6	1696.1	1698.6	1696.1	1696.1	1693.6	1691.1	1691.1
5°	1728.4	1726.0	1726.0	1726.0	1723.5	1721.0	1721.0	1718.5	1713.6	1711.1	1706.1
7.5°	1745.9	1748.4	1748.4	1748.4	1743.4	1743.4	1738.4	1733.4	1728.4	1723.5	1716.0
10°	1765.8	1765.8	1763.3	1760.9	1755.9	1753.4	1750.9	1745.9	1738.4	1728.4	1721.0
12.5°	1773.3	1773.3	1770.8	1765.8	1763.3	1760.9	1758.4	1750.9	1740.9	1728.4	1718.5
15°	1775.8	1770.8	1768.3	1765.8	1760.9	1753.4	1753.4	1743.4	1730.9	1716.0	1703.6
17.5°	1755.9	1758.4	1753.4	1748.4	1740.9	1735.9	1728.4	1721.0	1706.1	1688.6	1676.1
20°	1730.9	1728.4	1726.0	1718.5	1708.6	1706.1	1698.6	1686.1	1673.6	1653.8	1636.3
22.5°	1691.1	1688.6	1683.6	1678.6	1668.6	1663.8	1656.3	1641.3	1623.8	1604.0	1584.0
25°	1641.3	1636.3	1628.8	1618.9	1611.5	1606.5	1596.5	1581.5	1561.6	1539.2	1519.3
27.5°	1561.6	1569.1	1564.1	1549.1	1541.7	1531.7	1529.2	1509.3	1491.8	1469.5	1447.0
30°	1484.3	1484.3	1477.0	1469.5	1457.0	1449.5	1439.5	1424.7	1407.2	1379.8	1362.4
32.5°	1387.2	1384.8	1374.8	1372.3	1362.4	1347.4	1344.9	1325.0	1307.5	1287.7	1265.2
35°	1280.2	1275.2	1265.2	1257.7	1252.7	1245.2	1237.9	1220.4	1202.9	1183.1	1168.1
37.5°	1158.1	1158.1	1155.6	1143.2	1138.2	1133.2	1125.7	1108.3	1098.4	1078.4	1063.4
40°	1041.1	1038.6	1031.1	1028.6	1023.6	1016.1	1011.1	1001.3	986.3	971.3	956.4
42.5°	926.5	929.0	919.0	921.5	911.6	906.6	904.1	889.1	881.6	866.8	854.3
45°	824.3	821.8	817.0	814.5	809.5	804.5	799.5	792.0	779.5	764.6	757.2
47.5°	729.7	722.3	722.3	719.8	717.3	707.3	704.8	697.3	689.9	675.0	665.0
50°	640.0	640.0	640.0	637.5	630.2	627.7	622.7	615.2	607.7	597.7	582.8
52.5°	567.9	567.9	567.9	565.4	555.4	552.9	550.4	540.4	530.5	523.0	513.1
55°	500.6	503.1	500.6	495.6	488.2	488.2	480.7	475.7	465.7	458.2	448.3
57.5°	443.4	443.4	438.4	435.9	430.9	428.4	423.4	418.4	405.9	398.6	386.1
60°	388.6	386.1	386.1	381.1	376.1	371.1	368.6	361.1	356.1	343.7	333.8
62.5°	338.7	338.7	333.8	333.8	323.8	323.8	321.3	313.8	306.3	293.9	288.9
65°	291.4	291.4	288.9	286.4	278.9	276.4	273.9	266.5	259.0	251.6	244.1
67.5°	249.1	249.1	244.1	241.6	236.6	234.1	229.1	224.1	216.6	209.3	201.8
70°	209.3	206.8	204.3	201.8	196.8	194.3	189.3	184.3	176.8	171.8	164.3
72.5°	169.3	169.3	166.8	161.9	159.4	156.9	154.5	149.5	142.0	134.5	129.5
75°	132.0	132.0	132.0	127.0	122.0	119.5	119.5	114.6	109.6	102.1	97.1
77.5°	102.1	99.6	97.1	97.1	92.1	89.7	87.2	84.7	77.2	74.7	69.8
80°	69.8	72.2	69.8	67.3	64.8	62.3	62.3	57.3	54.8	49.8	44.8
82.5°	47.3	44.8	44.8	42.3	42.3	39.8	39.8	34.8	32.3	29.8	27.3
85°	24.9	24.9	22.5	22.5	22.5	20.0	20.0	17.5	17.5	15.0	12.5
87.5°	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	5.0	5.0	5.0
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3
2.5°	1688.6	1683.6	1681.1	1681.1	1678.6	1676.1	1673.6	1671.1	1666.3	1666.3	1661.3
5°	1701.1	1696.1	1693.6	1686.1	1681.1	1681.1	1671.1	1668.6	1661.3	1656.3	1651.3
7.5°	1711.1	1701.1	1693.6	1686.1	1681.1	1676.1	1666.3	1656.3	1646.3	1636.3	1631.3
10°	1711.1	1701.1	1688.6	1676.1	1671.1	1666.3	1653.8	1638.8	1626.3	1616.4	1604.0
12.5°	1706.1	1691.1	1676.1	1666.3	1656.3	1648.8	1633.8	1618.9	1604.0	1584.0	1574.0
15°	1691.1	1671.1	1656.3	1638.8	1631.3	1618.9	1606.5	1584.0	1566.6	1549.1	1536.7
17.5°	1661.3	1636.3	1618.9	1601.5	1589.0	1581.5	1561.6	1541.7	1521.8	1501.8	1486.8
20°	1616.4	1594.0	1574.0	1551.6	1541.7	1531.7	1506.8	1486.8	1467.0	1444.5	1429.7
22.5°	1561.6	1539.2	1511.8	1494.3	1479.4	1467.0	1444.5	1422.2	1402.2	1382.3	1362.4
25°	1494.3	1472.0	1447.0	1419.7	1409.7	1397.2	1372.3	1349.9	1327.5	1305.0	1287.7
27.5°	1422.2	1392.2	1372.3	1342.4	1332.5	1320.0	1292.6	1267.7	1247.7	1230.4	1210.4
30°	1335.0	1312.5	1285.2	1257.7	1247.7	1235.4	1212.9	1190.5	1170.6	1150.6	1130.7
32.5°	1240.4	1217.9	1190.5	1170.6	1155.6	1145.7	1123.2	1103.4	1083.4	1063.4	1046.1
35°	1140.7	1115.8	1095.9	1075.9	1063.4	1051.1	1028.6	1011.1	996.3	978.8	961.4
37.5°	1038.6	1021.1	1001.3	978.8	966.3	956.4	939.0	919.0	906.6	891.6	879.1
40°	939.0	919.0	901.6	881.6	871.7	864.3	846.8	831.8	819.5	807.0	799.5
42.5°	836.8	819.5	802.0	789.5	782.0	774.6	762.1	744.7	737.2	724.8	717.3
45°	742.2	727.3	714.8	697.3	692.4	687.4	672.5	660.0	652.5	645.0	640.0
47.5°	652.5	642.5	627.7	617.7	610.2	605.2	595.2	585.3	577.9	572.9	567.9
50°	575.4	562.9	552.9	542.9	538.0	530.5	520.5	515.6	510.6	505.6	505.6
52.5°	503.1	490.7	480.7	473.2	468.2	463.2	455.7	453.2	448.3	448.3	445.9
55°	435.9	428.4	418.4	408.4	405.9	403.4	398.6	393.6	391.1	388.6	391.1
57.5°	378.6	371.1	361.1	353.6	351.2	348.7	346.2	341.2	338.7	338.7	338.7
60°	326.3	318.8	311.3	303.9	303.9	298.9	296.4	293.9	291.4	288.9	288.9
62.5°	278.9	271.4	264.0	259.0	256.6	254.1	249.1	246.6	244.1	244.1	241.6
65°	236.6	226.6	224.1	216.6	214.1	211.6	209.3	204.3	201.8	199.3	196.8
67.5°	194.3	189.3	181.8	176.8	174.3	171.8	169.3	164.3	161.9	159.4	154.5
70°	156.9	152.0	147.0	142.0	139.5	137.0	132.0	127.0	124.5	119.5	112.1
72.5°	122.0	117.1	112.1	107.1	104.6	102.1	97.1	92.1	87.2	82.2	77.2
75°	92.1	87.2	79.7	74.7	72.2	72.2	64.8	59.8	54.8	47.3	42.3
77.5°	64.8	57.3	54.8	49.8	47.3	42.3	37.3	32.3	27.3	24.9	20.0
80°	42.3	37.3	32.3	29.8	27.3	24.9	22.5	17.5	12.5	10.0	7.5
82.5°	24.9	22.5	20.0	17.5	15.0	12.5	10.0	10.0	7.5	5.0	2.5
85°	12.5	10.0	7.5	7.5	5.0	5.0	5.0	2.5	2.5	2.5	2.5
87.5°	5.0	2.5	2.5	2.5	2.5	2.5	2.5	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°	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3
2.5°	1658.8	1656.3	1653.8	1651.3	1651.3	1646.3	1646.3	1643.8	1638.8	1636.3	1636.3
5°	1643.8	1636.3	1631.3	1628.8	1626.3	1618.9	1616.4	1611.5	1606.5	1601.5	1599.0
7.5°	1621.3	1609.0	1604.0	1601.5	1594.0	1586.5	1581.5	1574.0	1566.6	1559.1	1556.6
10°	1594.0	1581.5	1569.1	1564.1	1556.6	1551.6	1541.7	1531.7	1524.3	1516.8	1509.3
12.5°	1559.1	1544.2	1531.7	1526.7	1519.3	1509.3	1494.3	1489.3	1477.0	1472.0	1462.0
15°	1519.3	1501.8	1489.3	1481.9	1474.5	1459.5	1449.5	1439.5	1427.2	1422.2	1412.2
17.5°	1469.5	1449.5	1437.0	1429.7	1424.7	1412.2	1397.2	1384.8	1372.3	1367.4	1359.9
20°	1409.7	1397.2	1379.8	1372.3	1367.4	1352.4	1337.5	1332.5	1322.5	1312.5	1305.0
22.5°	1342.4	1330.0	1312.5	1305.0	1302.5	1290.2	1277.7	1270.2	1262.7	1255.2	1247.7
25°	1272.7	1257.7	1242.9	1237.9	1232.9	1222.9	1212.9	1207.9	1200.4	1195.5	1190.5
27.5°	1197.9	1183.1	1170.6	1163.1	1158.1	1150.6	1145.7	1140.7	1135.7	1130.7	1128.2
30°	1118.3	1103.4	1093.4	1088.4	1083.4	1080.9	1073.4	1070.9	1068.4	1063.4	1065.9
32.5°	1038.6	1026.1	1016.1	1008.7	1008.7	1003.8	1001.3	1001.3	998.8	998.8	998.8
35°	951.4	943.9	936.5	934.0	931.5	929.0	926.5	929.0	926.5	929.0	931.5
37.5°	871.7	864.3	859.3	856.8	854.3	856.8	854.3	854.3	856.8	861.8	864.3
40°	789.5	784.5	779.5	782.0	779.5	779.5	779.5	787.0	789.5	792.0	794.5
42.5°	712.3	707.3	704.8	704.8	707.3	704.8	709.8	712.3	717.3	724.8	729.7
45°	637.5	635.0	635.0	637.5	635.0	640.0	640.0	645.0	652.5	657.5	662.5
47.5°	567.9	567.9	567.9	570.4	570.4	572.9	577.9	580.4	585.3	590.2	595.2
50°	503.1	505.6	508.1	508.1	508.1	513.1	518.0	520.5	523.0	525.5	533.0
52.5°	445.9	448.3	448.3	450.7	453.2	455.7	458.2	463.2	465.7	470.7	473.2
55°	391.1	391.1	396.1	398.6	398.6	398.6	403.4	403.4	408.4	410.9	415.9
57.5°	338.7	341.2	341.2	343.7	343.7	346.2	348.7	351.2	353.6	356.1	358.6
60°	288.9	288.9	288.9	291.4	293.9	296.4	293.9	298.9	298.9	303.9	306.3
62.5°	241.6	244.1	244.1	244.1	244.1	244.1	244.1	246.6	249.1	251.6	254.1
65°	196.8	196.8	196.8	194.3	196.8	194.3	196.8	199.3	199.3	201.8	204.3
67.5°	152.0	152.0	147.0	147.0	149.5	149.5	149.5	149.5	147.0	152.0	152.0
70°	109.6	107.1	104.6	102.1	102.1	99.6	99.6	97.1	97.1	97.1	97.1
72.5°	72.2	67.3	62.3	59.8	57.3	57.3	52.3	49.8	52.3	52.3	52.3
75°	37.3	32.3	29.8	27.3	24.9	24.9	22.5	22.5	22.5	22.5	22.5
77.5°	15.0	12.5	10.0	10.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5
80°	5.0	5.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
82.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
85°	2.5	0.0	0.0	2.5	0.0	2.5	2.5	2.5	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: P593666

CATALOG NUMBER: HC830D010-HM82555850-81WWBB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3	1666.3
2.5°	1633.8	1633.8	1631.3	1633.8	1628.8	1631.3	1628.8	1628.8
5°	1596.5	1591.5	1591.5	1591.5	1589.0	1589.0	1586.5	1586.5
7.5°	1551.6	1549.1	1546.7	1544.2	1541.7	1539.2	1539.2	1539.2
10°	1506.8	1501.8	1501.8	1499.3	1494.3	1491.8	1491.8	1491.8
12.5°	1454.5	1452.0	1449.5	1449.5	1439.5	1442.0	1439.5	1439.5
15°	1404.7	1402.2	1402.2	1394.7	1389.7	1389.7	1389.7	1387.2
17.5°	1352.4	1349.9	1347.4	1342.4	1337.5	1337.5	1335.0	1337.5
20°	1297.6	1295.1	1290.2	1290.2	1287.7	1285.2	1280.2	1282.7
22.5°	1242.9	1237.9	1235.4	1235.4	1232.9	1232.9	1227.9	1227.9
25°	1185.6	1183.1	1180.6	1183.1	1178.1	1178.1	1173.1	1173.1
27.5°	1125.7	1123.2	1123.2	1123.2	1120.8	1123.2	1120.8	1120.8
30°	1065.9	1065.9	1063.4	1063.4	1065.9	1063.4	1065.9	1068.4
32.5°	1001.3	1001.3	1003.8	1003.8	1006.3	1006.3	1006.3	1006.3
35°	934.0	939.0	939.0	941.5	943.9	946.4	946.4	948.9
37.5°	871.7	874.2	876.6	879.1	884.1	884.1	884.1	884.1
40°	804.5	807.0	812.0	809.5	819.5	821.8	819.5	819.5
42.5°	734.7	739.7	742.2	747.2	749.7	754.7	757.2	757.2
45°	670.0	672.5	677.5	682.4	684.9	692.4	692.4	692.4
47.5°	602.7	607.7	610.2	615.2	617.7	625.2	627.7	625.2
50°	538.0	542.9	547.9	547.9	555.4	557.9	562.9	565.4
52.5°	475.7	478.2	483.2	485.7	490.7	495.6	498.1	500.6
55°	415.9	418.4	423.4	423.4	430.9	433.4	438.4	438.4
57.5°	361.1	363.6	368.6	366.1	371.1	376.1	376.1	373.6
60°	308.8	308.8	308.8	313.8	316.3	318.8	321.3	321.3
62.5°	254.1	259.0	261.5	261.5	264.0	266.5	266.5	264.0
65°	204.3	209.3	211.6	211.6	214.1	214.1	214.1	216.6
67.5°	154.5	154.5	154.5	156.9	154.5	154.5	154.5	154.5
70°	97.1	97.1	97.1	97.1	94.6	97.1	97.1	99.6
72.5°	52.3	52.3	52.3	52.3	52.3	52.3	52.3	52.3
75°	22.5	22.5	22.5	24.9	22.5	22.5	22.5	22.5
77.5°	10.0	7.5	10.0	10.0	7.5	7.5	7.5	7.5
80°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
82.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
85°	0.0	2.5	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)