

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: P593668

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

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P593668  
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-HM82555850-81WWWB  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3527.0 lumens  
Efficiency: N/A  
Efficacy: 126.0 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

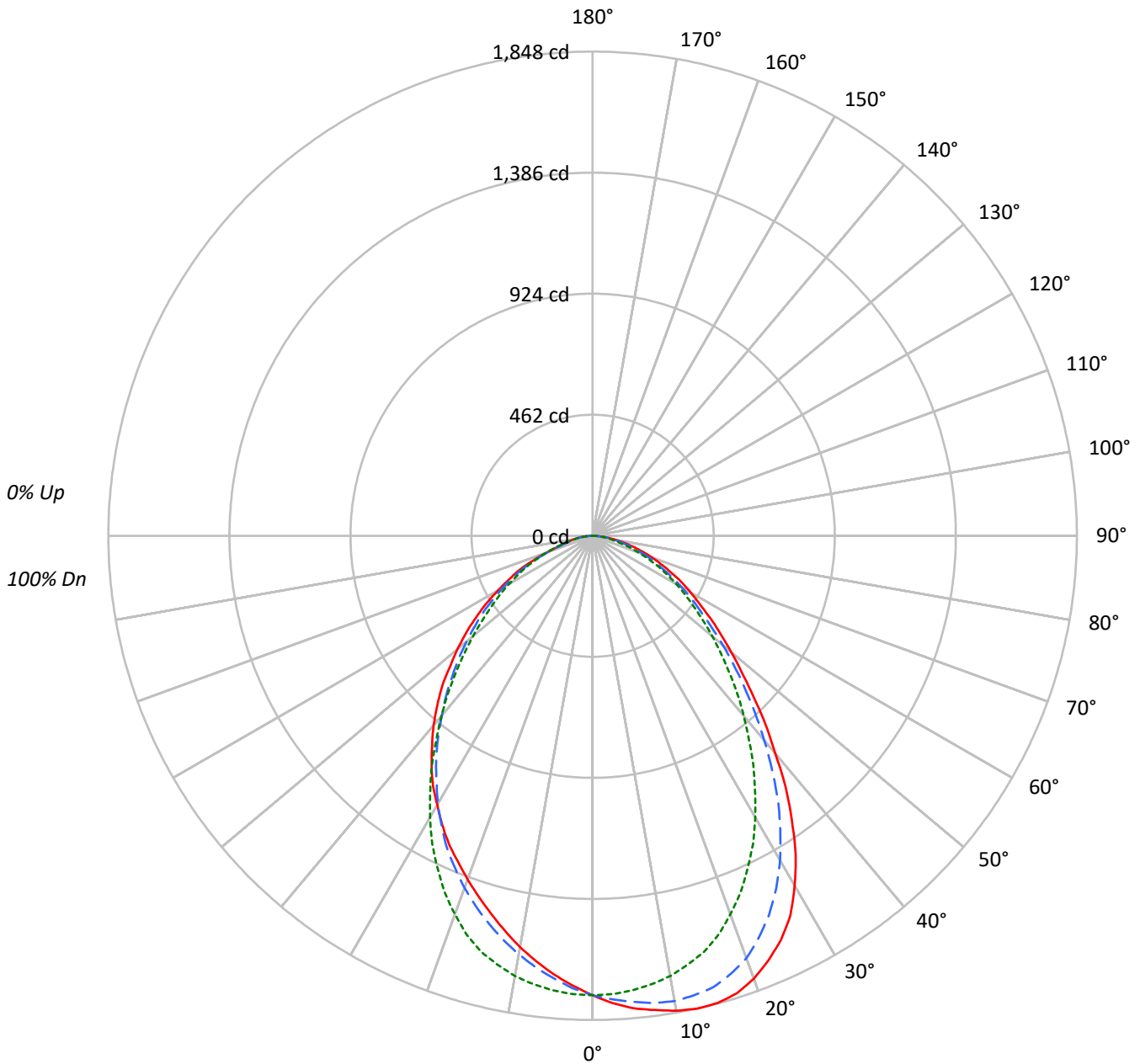
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	54078	54078	54078
5°	56058	53897	52049
10°	57639	53428	49918
15°	58926	52483	47714
20°	59018	50434	45774
25°	57885	47630	44156
30°	54902	44170	42219
35°	49890	40230	40324
40°	43615	36096	38004
45°	37805	32153	35415
50°	33101	28558	32266
55°	29461	25311	29192
60°	26575	22739	25656
65°	23991	20000	22356
70°	21557	16842	16616
75°	18991	13356	12462
80°	15929	11063	11951
85°	12312	9659	10543



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	165.4	4.7
10°-20°	466.0	13.2
20°-30°	665.9	18.9
30°-40°	707.6	20.1
40°-50°	609.2	17.3
50°-60°	455.5	12.9
60°-70°	290.5	8.2
70°-80°	132.2	3.7
80°-90°	34.7	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°	1297.3	36.8
0°-40°	2004.9	56.8
0°-60°	3069.6	87.0
0°-90°	3527.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3527.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1754	1754	1754	1754	1754	
5°	1811	1786	1741	1696	1682	174
15°	1846	1784	1644	1532	1495	520
25°	1701	1594	1400	1315	1298	779
35°	1325	1233	1069	1041	1071	825
45°	867	820	737	757	812	674
55°	548	503	471	511	543	493
65°	329	291	274	286	306	328
75°	159	137	112	102	105	169
85°	35	30	27	30	30	42
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°	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7
2.5°	1786.1	1781.1	1783.6	1781.1	1783.6	1783.6	1778.6	1778.6	1778.6	1778.6	1771.1
5°	1811.0	1808.5	1808.5	1806.0	1803.5	1806.0	1803.5	1801.0	1796.0	1793.5	1786.1
7.5°	1825.9	1825.9	1825.9	1825.9	1823.5	1821.0	1818.5	1813.5	1808.5	1803.5	1798.5
10°	1840.8	1843.3	1840.8	1838.3	1835.9	1830.9	1828.4	1823.5	1816.0	1808.5	1803.5
12.5°	1848.3	1848.3	1845.8	1845.8	1840.8	1838.3	1830.9	1823.5	1816.0	1808.5	1796.0
15°	1845.8	1845.8	1843.3	1840.8	1833.4	1830.9	1825.9	1818.5	1806.0	1796.0	1783.6
17.5°	1830.9	1828.4	1823.5	1823.5	1813.5	1811.0	1806.0	1796.0	1783.6	1768.6	1753.7
20°	1798.5	1798.5	1796.0	1793.5	1783.6	1776.1	1771.1	1758.6	1748.7	1731.3	1716.3
22.5°	1753.7	1758.6	1753.7	1748.7	1736.3	1733.8	1726.3	1711.3	1696.3	1676.5	1659.0
25°	1701.3	1698.8	1696.3	1691.4	1681.5	1676.5	1666.5	1651.5	1636.5	1614.2	1594.2
27.5°	1634.2	1624.2	1624.2	1614.2	1606.7	1599.2	1594.2	1579.3	1559.4	1541.9	1517.0
30°	1541.9	1544.4	1532.0	1529.5	1517.0	1512.1	1502.1	1487.1	1469.7	1449.7	1429.9
32.5°	1442.3	1434.9	1434.9	1424.9	1414.9	1407.4	1404.9	1387.4	1372.6	1352.6	1332.8
35°	1325.3	1325.3	1317.8	1315.3	1305.3	1300.3	1292.8	1282.9	1265.5	1248.0	1233.1
37.5°	1210.6	1205.6	1203.1	1198.2	1190.7	1183.3	1183.3	1165.8	1163.3	1143.3	1123.5
40°	1083.5	1088.5	1083.5	1076.2	1073.7	1068.7	1066.2	1056.2	1048.7	1031.3	1018.9
42.5°	976.5	971.5	971.5	969.0	959.0	959.0	954.1	949.1	936.6	931.6	916.7
45°	866.9	871.9	864.4	866.9	856.9	856.9	856.9	846.9	836.9	829.6	819.6
47.5°	772.3	774.8	774.8	767.3	764.8	764.8	759.8	754.8	747.3	737.3	729.9
50°	690.0	692.5	687.5	685.0	680.0	677.6	677.6	667.6	662.6	652.6	647.6
52.5°	615.3	615.3	612.8	612.8	605.3	605.3	600.3	592.8	587.8	582.8	570.5
55°	548.0	548.0	545.5	543.0	543.0	535.5	533.0	525.7	520.7	510.7	503.2
57.5°	483.2	485.7	483.2	480.7	478.3	475.8	470.8	463.4	458.4	450.9	445.9
60°	430.9	430.9	428.4	426.0	421.0	418.5	416.0	411.0	403.5	398.6	391.1
62.5°	381.1	378.6	376.2	373.7	368.7	368.7	363.7	358.7	351.2	346.2	341.2
65°	328.8	328.8	326.4	326.4	323.9	318.9	316.4	313.9	303.9	301.4	291.4
67.5°	281.4	283.9	278.9	278.9	274.1	274.1	271.6	264.1	261.6	256.6	251.6
70°	239.1	239.1	239.1	236.6	231.6	229.1	226.6	221.7	219.3	214.3	209.3
72.5°	196.8	196.8	194.3	194.3	191.8	189.3	186.8	181.8	181.8	176.8	171.9
75°	159.4	159.4	156.9	154.5	152.0	152.0	149.5	147.0	142.0	139.5	137.0
77.5°	122.1	122.1	122.1	119.6	117.1	117.1	117.1	112.1	107.1	107.1	104.6
80°	89.7	89.7	87.2	87.2	84.7	84.7	84.7	82.2	79.7	77.2	74.8
82.5°	59.8	59.8	59.8	59.8	57.3	57.3	57.3	54.8	52.3	52.3	52.3
85°	34.8	34.8	34.8	34.8	32.3	32.3	32.3	32.3	32.3	29.8	29.8
87.5°	15.0	12.5	15.0	12.5	15.0	12.5	15.0	12.5	12.5	12.5	12.5
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°	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7
2.5°	1773.6	1771.1	1768.6	1766.1	1766.1	1763.6	1758.6	1756.2	1753.7	1751.2	1751.2
5°	1783.6	1781.1	1776.1	1771.1	1768.6	1763.6	1758.6	1753.7	1748.7	1741.2	1738.7
7.5°	1791.0	1783.6	1778.6	1768.6	1766.1	1761.1	1753.7	1746.2	1736.3	1726.3	1718.8
10°	1791.0	1781.1	1773.6	1761.1	1756.2	1751.2	1741.2	1728.8	1716.3	1706.3	1693.8
12.5°	1786.1	1773.6	1761.1	1748.7	1741.2	1733.8	1718.8	1706.3	1691.4	1676.5	1666.5
15°	1768.6	1753.7	1738.7	1723.8	1716.3	1706.3	1691.4	1674.0	1659.0	1644.0	1626.7
17.5°	1736.3	1721.3	1703.8	1686.5	1676.5	1669.0	1646.5	1634.2	1611.7	1596.7	1581.8
20°	1693.8	1676.5	1654.0	1636.5	1624.2	1616.7	1599.2	1576.9	1559.4	1536.9	1522.0
22.5°	1639.0	1616.7	1594.2	1576.9	1564.4	1554.4	1532.0	1509.6	1494.6	1474.7	1457.2
25°	1574.4	1551.9	1529.5	1504.6	1492.1	1482.2	1462.2	1442.3	1422.4	1399.9	1384.9
27.5°	1497.1	1472.2	1452.2	1429.9	1417.4	1402.4	1380.1	1360.1	1340.1	1325.3	1305.3
30°	1412.4	1384.9	1365.1	1342.6	1330.3	1317.8	1295.3	1275.4	1258.0	1240.5	1230.6
32.5°	1310.3	1290.3	1270.4	1248.0	1238.0	1230.6	1208.1	1188.2	1168.3	1153.3	1145.8
35°	1213.1	1190.7	1173.3	1153.3	1140.8	1133.4	1113.5	1096.0	1086.0	1068.7	1058.7
37.5°	1111.0	1093.5	1073.7	1053.7	1046.2	1038.7	1023.8	1006.4	991.4	979.0	974.0
40°	1003.9	988.9	971.5	959.0	951.6	944.1	931.6	919.2	909.2	896.7	891.8
42.5°	901.7	891.8	876.9	861.9	854.4	851.9	836.9	827.1	822.1	817.1	812.1
45°	809.6	794.6	784.6	774.8	767.3	762.3	754.8	747.3	742.3	737.3	732.3
47.5°	719.9	707.5	697.5	690.0	682.5	680.0	675.1	667.6	662.6	662.6	662.6
50°	637.7	627.8	617.8	612.8	610.3	605.3	600.3	597.8	595.3	595.3	595.3
52.5°	565.5	555.5	548.0	543.0	543.0	538.0	533.0	530.5	530.5	530.5	530.5
55°	498.2	490.7	485.7	480.7	475.8	473.3	473.3	473.3	470.8	470.8	473.3
57.5°	438.4	433.4	426.0	421.0	418.5	418.5	416.0	413.5	416.0	418.5	421.0
60°	383.6	378.6	376.2	368.7	368.7	368.7	366.2	366.2	366.2	368.7	371.2
62.5°	333.8	331.3	326.4	323.9	321.4	321.4	318.9	318.9	318.9	318.9	321.4
65°	288.9	283.9	278.9	278.9	278.9	276.6	276.6	271.6	274.1	274.1	271.6
67.5°	246.6	241.6	239.1	236.6	234.1	234.1	231.6	229.1	226.6	226.6	226.6
70°	206.8	201.8	201.8	196.8	196.8	194.3	191.8	191.8	189.3	186.8	184.3
72.5°	166.9	164.4	161.9	159.4	159.4	159.4	156.9	154.5	152.0	149.5	144.5
75°	132.0	132.0	127.0	124.6	124.6	122.1	119.6	117.1	114.6	112.1	109.6
77.5°	102.1	99.6	94.6	92.1	92.1	92.1	89.7	87.2	84.7	82.2	79.7
80°	74.8	72.3	69.8	67.3	67.3	67.3	64.8	64.8	62.3	62.3	62.3
82.5°	49.8	49.8	47.3	47.3	47.3	47.3	44.8	44.8	44.8	44.8	44.8
85°	29.8	29.8	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3
87.5°	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
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°	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7
2.5°	1746.2	1746.2	1741.2	1738.7	1736.3	1738.7	1733.8	1731.3	1728.8	1728.8	1726.3
5°	1731.3	1728.8	1718.8	1716.3	1713.8	1711.3	1706.3	1701.3	1696.3	1693.8	1691.4
7.5°	1711.3	1703.8	1693.8	1691.4	1688.9	1681.5	1674.0	1669.0	1661.5	1659.0	1654.0
10°	1684.0	1674.0	1666.5	1659.0	1654.0	1646.5	1639.0	1631.7	1621.7	1619.2	1611.7
12.5°	1651.5	1639.0	1624.2	1621.7	1614.2	1604.2	1594.2	1586.7	1579.3	1574.4	1566.9
15°	1611.7	1599.2	1584.3	1576.9	1569.4	1561.9	1549.4	1539.4	1532.0	1524.5	1517.0
17.5°	1564.4	1549.4	1536.9	1529.5	1524.5	1512.1	1502.1	1489.6	1482.2	1474.7	1467.2
20°	1507.1	1494.6	1477.2	1469.7	1467.2	1457.2	1444.8	1439.8	1429.9	1422.4	1417.4
22.5°	1442.3	1429.9	1414.9	1409.9	1399.9	1394.9	1382.6	1377.6	1372.6	1365.1	1362.6
25°	1370.1	1357.6	1345.1	1342.6	1335.1	1330.3	1322.8	1315.3	1315.3	1307.8	1307.8
27.5°	1295.3	1282.9	1272.9	1267.9	1265.5	1260.5	1253.0	1250.5	1248.0	1245.5	1245.5
30°	1215.6	1200.7	1195.7	1193.2	1190.7	1185.7	1183.3	1178.3	1180.8	1183.3	1180.8
32.5°	1131.0	1126.0	1116.0	1111.0	1113.5	1111.0	1106.0	1111.0	1108.5	1113.5	1116.0
35°	1048.7	1043.7	1038.7	1038.7	1033.7	1033.7	1033.7	1036.2	1041.2	1043.7	1048.7
37.5°	969.0	961.5	959.0	956.6	959.0	959.0	959.0	964.0	969.0	974.0	981.5
40°	884.3	879.4	879.4	879.4	879.4	886.8	884.3	889.3	894.2	901.7	909.2
42.5°	804.6	804.6	807.1	807.1	807.1	807.1	812.1	819.6	827.1	834.4	841.9
45°	729.9	729.9	729.9	734.8	734.8	737.3	747.3	752.3	757.3	764.8	772.3
47.5°	660.1	660.1	662.6	665.1	667.6	672.6	677.6	685.0	692.5	697.5	705.0
50°	595.3	597.8	602.8	607.8	607.8	610.3	617.8	622.8	627.8	635.2	637.7
52.5°	533.0	538.0	543.0	545.5	548.0	553.0	555.5	563.0	565.5	573.0	575.5
55°	475.8	478.3	485.7	488.2	488.2	493.2	498.2	503.2	510.7	510.7	515.7
57.5°	423.5	426.0	430.9	433.4	430.9	438.4	440.9	445.9	448.4	453.4	455.9
60°	371.2	376.2	378.6	378.6	381.1	383.6	388.6	388.6	393.6	398.6	398.6
62.5°	321.4	323.9	326.4	328.8	331.3	328.8	336.2	336.2	341.2	343.7	348.7
65°	274.1	276.6	276.6	278.9	278.9	281.4	281.4	283.9	286.4	291.4	293.9
67.5°	226.6	226.6	226.6	229.1	226.6	229.1	229.1	231.6	231.6	236.6	239.1
70°	184.3	181.8	179.3	179.3	179.3	179.3	176.8	179.3	179.3	181.8	181.8
72.5°	142.0	139.5	137.0	134.5	134.5	132.0	129.5	132.0	132.0	134.5	134.5
75°	107.1	102.1	102.1	102.1	99.6	99.6	99.6	102.1	102.1	102.1	104.6
77.5°	79.7	79.7	77.2	77.2	77.2	79.7	79.7	82.2	82.2	82.2	82.2
80°	59.8	62.3	62.3	62.3	62.3	64.8	64.8	64.8	64.8	67.3	67.3
82.5°	44.8	44.8	44.8	44.8	47.3	47.3	47.3	47.3	47.3	47.3	47.3
85°	27.3	29.8	29.8	27.3	29.8	29.8	29.8	29.8	29.8	29.8	29.8
87.5°	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
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: P593668

CATALOG NUMBER: HC830D010-HM82555850-81WWWB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7	1753.7
2.5°	1723.8	1723.8	1723.8	1723.8	1721.3	1721.3	1721.3	1718.8
5°	1686.5	1686.5	1686.5	1681.5	1684.0	1684.0	1679.0	1681.5
7.5°	1649.0	1646.5	1644.0	1644.0	1641.5	1639.0	1636.5	1639.0
10°	1606.7	1599.2	1599.2	1596.7	1596.7	1591.7	1591.7	1594.2
12.5°	1559.4	1554.4	1554.4	1551.9	1549.4	1546.9	1544.4	1544.4
15°	1512.1	1507.1	1504.6	1502.1	1499.6	1494.6	1497.1	1494.6
17.5°	1464.7	1457.2	1457.2	1454.7	1452.2	1447.3	1447.3	1444.8
20°	1409.9	1407.4	1402.4	1404.9	1402.4	1397.4	1394.9	1394.9
22.5°	1355.1	1355.1	1352.6	1352.6	1350.1	1347.6	1345.1	1345.1
25°	1302.8	1300.3	1302.8	1302.8	1295.3	1295.3	1295.3	1297.8
27.5°	1243.0	1245.5	1243.0	1243.0	1243.0	1243.0	1245.5	1243.0
30°	1183.3	1183.3	1183.3	1185.7	1190.7	1188.2	1188.2	1185.7
32.5°	1118.5	1121.0	1121.0	1123.5	1126.0	1131.0	1131.0	1133.4
35°	1053.7	1058.7	1061.2	1058.7	1066.2	1066.2	1071.2	1071.2
37.5°	986.4	988.9	993.9	996.4	1001.4	1003.9	1006.4	1006.4
40°	914.2	924.2	926.7	929.2	936.6	936.6	939.1	944.1
42.5°	846.9	856.9	859.4	861.9	866.9	874.4	871.9	876.9
45°	782.1	789.6	792.1	794.6	802.1	804.6	804.6	812.1
47.5°	712.4	717.4	719.9	724.9	729.9	734.8	739.8	737.3
50°	642.7	650.1	655.1	657.6	665.1	667.6	670.1	672.6
52.5°	580.4	585.3	587.8	590.3	597.8	600.3	602.8	607.8
55°	520.7	523.2	528.2	525.7	533.0	535.5	538.0	543.0
57.5°	460.9	463.4	465.9	465.9	470.8	475.8	478.3	480.7
60°	403.5	408.5	411.0	411.0	411.0	416.0	416.0	416.0
62.5°	351.2	351.2	353.7	353.7	358.7	358.7	358.7	358.7
65°	296.4	298.9	301.4	301.4	306.4	303.9	308.9	306.4
67.5°	239.1	239.1	244.1	244.1	241.6	244.1	244.1	244.1
70°	181.8	181.8	184.3	184.3	184.3	184.3	184.3	184.3
72.5°	134.5	134.5	134.5	137.0	134.5	134.5	137.0	134.5
75°	104.6	104.6	104.6	104.6	104.6	104.6	104.6	104.6
77.5°	82.2	82.2	84.7	84.7	84.7	84.7	84.7	84.7
80°	67.3	67.3	67.3	67.3	69.8	67.3	67.3	67.3
82.5°	49.8	47.3	49.8	47.3	49.8	49.8	49.8	49.8
85°	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8
87.5°	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
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)