

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: P584446

Luminaire Tested: **HC835D010-HM82555927-81RWWC**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584446  
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: HC835D010-HM82555927-81RWWC  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3065.7 lumens  
Efficiency: N/A  
Efficacy: 91.0 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

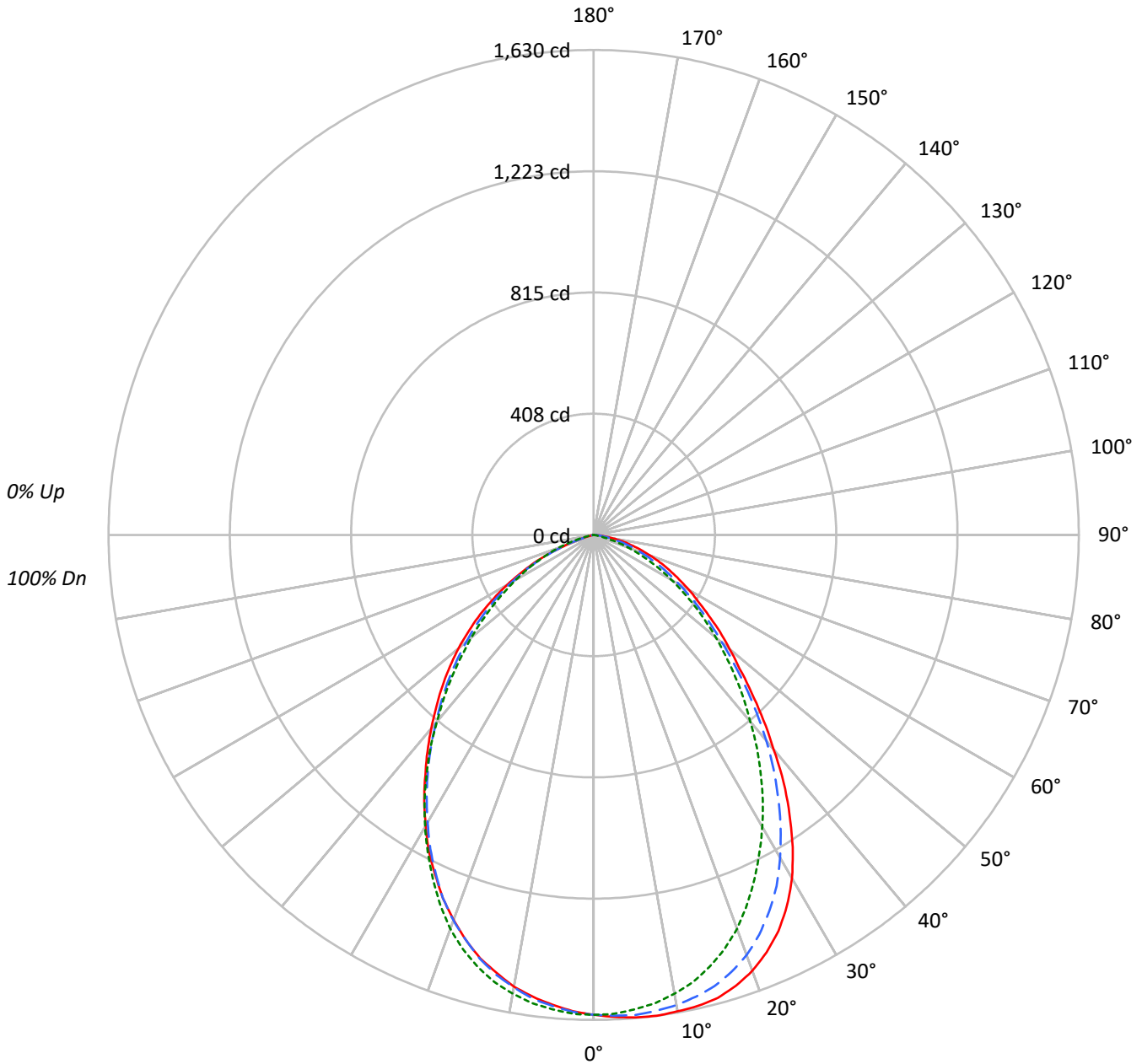
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	49742	49742	49742
5°	50396	49533	49065
10°	50910	49025	48280
15°	51430	47992	47027
20°	51166	46220	45157
25°	49971	43452	42864
30°	47467	40335	40182
35°	43212	36805	37128
40°	37883	32944	34155
45°	32685	29305	31368
50°	28621	25723	28414
55°	25359	22117	25010
60°	22844	18594	20716
65°	20583	14929	15877
70°	18059	10873	8736
75°	15405	5635	2311
80°	11845	1527	391
85°	7642	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	152.2	5.0
10°-20°	427.8	14.0
20°-30°	607.3	19.8
30°-40°	639.2	20.9
40°-50°	543.8	17.7
50°-60°	393.0	12.8
60°-70°	223.5	7.3
70°-80°	70.4	2.3
80°-90°	8.6	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°	1187.3	38.7
0°-40°	1826.5	59.6
0°-60°	2763.2	90.1
0°-90°	3065.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3065.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1613	1613	1613	1613	1613	
5°	1628	1620	1600	1589	1585	155
15°	1611	1570	1503	1475	1473	454
25°	1469	1396	1277	1256	1260	673
35°	1148	1081	978	971	986	714
45°	750	721	672	689	719	583
55°	472	437	411	435	465	425
65°	282	243	205	202	218	280
75°	129	99	47	22	19	139
85°	22	13	0	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°	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1
2.5°	1621.6	1623.8	1619.5	1619.5	1623.8	1619.5	1621.6	1621.6	1619.5	1619.5	1617.3
5°	1628.1	1625.9	1625.9	1625.9	1628.1	1623.8	1621.6	1623.8	1619.5	1619.5	1619.5
7.5°	1630.2	1630.2	1628.1	1625.9	1625.9	1625.9	1623.8	1621.6	1619.5	1615.1	1613.1
10°	1625.9	1625.9	1628.1	1623.8	1623.8	1619.5	1619.5	1615.1	1615.1	1611.0	1604.5
12.5°	1621.6	1619.5	1619.5	1615.1	1615.1	1611.0	1611.0	1604.5	1602.3	1595.9	1589.4
15°	1611.0	1608.8	1604.5	1602.3	1600.2	1598.0	1593.7	1591.5	1585.1	1576.4	1570.0
17.5°	1589.4	1587.2	1585.1	1580.8	1576.4	1574.3	1572.1	1565.7	1557.0	1550.6	1539.8
20°	1559.2	1557.0	1557.0	1550.6	1548.4	1541.9	1539.8	1531.2	1524.7	1511.9	1503.3
22.5°	1518.3	1520.5	1516.2	1511.9	1507.6	1501.1	1496.8	1488.2	1477.4	1464.4	1453.7
25°	1468.7	1470.9	1466.6	1462.3	1455.8	1451.5	1447.2	1434.2	1423.6	1408.5	1395.6
27.5°	1406.3	1406.3	1406.3	1402.0	1391.2	1389.1	1384.8	1371.8	1356.7	1343.8	1331.0
30°	1333.1	1331.0	1331.0	1324.5	1320.2	1311.6	1305.1	1294.3	1283.5	1268.4	1253.3
32.5°	1244.8	1246.9	1240.5	1236.2	1229.7	1229.7	1221.1	1212.5	1199.6	1184.5	1169.4
35°	1147.9	1150.1	1145.8	1143.6	1132.8	1130.7	1128.5	1117.7	1109.1	1098.3	1081.1
37.5°	1048.8	1046.7	1044.5	1044.5	1038.1	1033.8	1029.4	1023.0	1010.0	1001.4	992.8
40°	941.1	941.1	941.1	939.0	936.8	932.5	930.4	926.1	917.4	908.8	902.3
42.5°	844.2	844.2	842.1	839.9	835.6	837.8	833.4	829.1	820.5	814.0	809.7
45°	749.5	749.5	749.5	751.6	747.3	740.8	740.8	736.5	732.2	727.9	721.4
47.5°	665.5	672.0	667.6	665.5	667.6	659.0	659.0	654.7	650.4	646.1	637.5
50°	596.6	596.6	596.6	592.3	590.1	590.1	583.7	579.4	577.2	572.9	564.3
52.5°	534.1	529.8	529.8	527.6	525.4	521.1	521.1	516.8	508.2	504.0	497.5
55°	471.7	471.7	469.5	467.3	465.2	463.0	460.9	454.4	450.1	443.6	437.2
57.5°	415.6	419.9	417.7	413.5	409.2	409.2	404.9	400.6	394.1	387.7	381.2
60°	370.4	368.3	368.3	366.1	361.8	359.6	357.5	351.0	344.5	338.1	331.6
62.5°	323.0	323.0	323.0	318.8	314.5	312.3	310.2	305.8	297.2	290.8	286.4
65°	282.1	280.0	277.8	275.7	273.5	269.2	267.0	262.7	256.3	249.8	243.3
67.5°	241.2	239.0	239.0	236.8	230.5	228.3	228.3	221.9	215.4	208.9	202.5
70°	200.3	200.3	200.3	196.0	193.8	191.7	189.5	185.2	178.7	172.3	165.8
72.5°	165.8	163.6	163.6	161.5	155.0	152.9	150.7	146.4	139.9	135.7	131.4
75°	129.3	129.3	127.1	125.0	122.8	120.6	118.5	114.2	107.7	101.2	99.1
77.5°	99.1	96.9	96.9	94.8	90.4	88.3	88.3	84.0	77.5	73.2	68.9
80°	66.7	68.9	66.7	64.6	62.4	60.3	58.1	55.9	51.6	47.3	43.1
82.5°	41.0	43.1	41.0	41.0	38.8	36.7	36.7	32.3	30.2	28.0	25.9
85°	21.6	21.6	21.6	21.6	19.4	19.4	19.4	17.3	15.1	12.9	12.9
87.5°	6.5	8.6	6.5	6.5	6.5	6.5	6.5	6.5	4.3	4.3	4.3
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°	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1
2.5°	1619.5	1617.3	1615.1	1615.1	1615.1	1615.1	1615.1	1613.1	1611.0	1611.0	1611.0
5°	1615.1	1615.1	1615.1	1613.1	1611.0	1611.0	1606.6	1604.5	1602.3	1600.2	1598.0
7.5°	1611.0	1606.6	1604.5	1602.3	1600.2	1600.2	1595.9	1591.5	1591.5	1587.2	1582.9
10°	1598.0	1595.9	1591.5	1587.2	1585.1	1582.9	1578.6	1572.1	1570.0	1565.7	1561.4
12.5°	1582.9	1578.6	1574.3	1565.7	1563.5	1561.4	1552.7	1546.3	1541.9	1539.8	1529.0
15°	1563.5	1554.9	1548.4	1537.6	1535.5	1531.2	1524.7	1518.3	1509.7	1503.3	1498.9
17.5°	1529.0	1520.5	1509.7	1498.9	1494.6	1494.6	1483.8	1475.2	1464.4	1460.1	1451.5
20°	1488.2	1477.4	1468.7	1455.8	1449.3	1442.9	1436.4	1423.6	1415.0	1408.5	1397.7
22.5°	1440.7	1425.7	1415.0	1402.0	1391.2	1384.8	1374.0	1363.2	1352.4	1346.0	1337.4
25°	1380.5	1367.5	1350.3	1337.4	1331.0	1322.4	1309.4	1298.6	1287.8	1277.1	1272.8
27.5°	1313.7	1296.5	1281.4	1266.3	1259.8	1253.3	1238.4	1225.4	1216.8	1206.0	1201.7
30°	1240.5	1223.3	1206.0	1193.1	1186.6	1175.8	1167.2	1152.2	1141.5	1132.8	1122.0
32.5°	1156.4	1143.6	1128.5	1109.1	1104.8	1096.2	1083.2	1076.8	1063.8	1057.5	1048.8
35°	1066.0	1057.5	1042.4	1027.3	1020.8	1016.5	1005.7	992.8	984.2	977.7	973.4
37.5°	979.8	969.1	954.1	943.3	939.0	932.5	919.6	913.1	904.5	900.2	891.6
40°	887.2	876.5	865.8	859.3	852.9	848.5	839.9	833.4	824.8	818.4	816.2
42.5°	796.8	790.3	781.8	773.2	771.0	764.6	760.3	753.8	747.3	745.2	738.7
45°	715.0	708.5	699.9	691.4	689.2	684.9	682.7	676.3	672.0	672.0	672.0
47.5°	633.1	626.7	618.0	613.7	615.9	607.3	607.3	605.1	600.8	600.8	603.0
50°	559.9	551.3	549.2	544.9	540.5	536.2	538.4	531.9	531.9	536.2	534.1
52.5°	491.1	482.4	480.3	476.0	473.8	473.8	471.7	471.7	469.5	471.7	471.7
55°	428.5	422.1	417.7	413.5	411.4	411.4	411.4	409.2	407.1	411.4	413.5
57.5°	372.6	370.4	366.1	359.6	357.5	355.3	353.2	353.2	353.2	353.2	355.3
60°	323.0	318.8	314.5	308.0	308.0	305.8	303.7	301.5	301.5	301.5	301.5
62.5°	280.0	273.5	267.0	262.7	260.6	258.4	256.3	251.9	251.9	251.9	251.9
65°	236.8	230.5	226.2	221.9	217.6	217.6	213.2	211.1	206.8	204.6	200.3
67.5°	196.0	191.7	187.4	180.9	178.7	176.6	172.3	170.1	163.6	161.5	159.3
70°	159.3	152.9	148.6	144.2	142.1	137.9	133.6	129.3	125.0	120.6	116.3
72.5°	125.0	118.5	114.2	109.9	105.5	105.5	99.1	94.8	88.3	84.0	77.5
75°	92.6	86.1	81.8	75.4	73.2	71.0	64.6	60.3	53.8	47.3	43.1
77.5°	62.4	58.1	53.8	47.3	43.1	43.1	36.7	32.3	28.0	21.6	19.4
80°	38.8	34.5	30.2	25.9	25.9	21.6	19.4	15.1	10.8	8.6	6.5
82.5°	21.6	19.4	17.3	12.9	12.9	10.8	8.6	6.5	4.3	2.2	2.2
85°	10.8	8.6	6.5	6.5	4.3	4.3	4.3	2.2	2.2	0.0	0.0
87.5°	4.3	2.2	2.2	2.2	2.2	2.2	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°	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1
2.5°	1608.8	1608.8	1606.6	1606.6	1606.6	1604.5	1606.6	1604.5	1604.5	1604.5	1606.6
5°	1600.2	1595.9	1595.9	1593.7	1593.7	1591.5	1593.7	1591.5	1589.4	1587.2	1589.4
7.5°	1582.9	1578.6	1576.4	1574.3	1574.3	1574.3	1572.1	1570.0	1572.1	1565.7	1570.0
10°	1559.2	1557.0	1552.7	1550.6	1548.4	1550.6	1548.4	1544.1	1544.1	1544.1	1541.9
12.5°	1529.0	1524.7	1522.5	1520.5	1516.2	1516.2	1518.3	1514.0	1514.0	1509.7	1509.7
15°	1492.5	1488.2	1483.8	1483.8	1479.5	1479.5	1477.4	1477.4	1475.2	1473.1	1473.1
17.5°	1447.2	1440.7	1436.4	1438.6	1436.4	1434.2	1434.2	1429.9	1427.9	1429.9	1429.9
20°	1393.4	1389.1	1384.8	1386.9	1382.6	1380.5	1382.6	1376.1	1378.3	1378.3	1378.3
22.5°	1333.1	1331.0	1324.5	1324.5	1320.2	1318.0	1320.2	1320.2	1322.4	1320.2	1320.2
25°	1266.3	1262.0	1257.7	1257.7	1255.5	1253.3	1255.5	1257.7	1255.5	1257.7	1257.7
27.5°	1195.2	1188.8	1188.8	1184.5	1184.5	1186.6	1184.5	1186.6	1188.8	1188.8	1193.1
30°	1117.7	1115.6	1113.4	1111.3	1111.3	1113.4	1113.4	1113.4	1115.6	1119.9	1119.9
32.5°	1044.5	1040.2	1035.9	1035.9	1040.2	1038.1	1040.2	1040.2	1044.5	1044.5	1048.8
35°	964.9	964.9	960.6	962.7	962.7	962.7	962.7	967.0	971.2	973.4	977.7
37.5°	891.6	885.1	887.2	887.2	889.4	887.2	893.7	893.7	898.0	898.0	902.3
40°	811.9	811.9	814.0	811.9	814.0	814.0	818.4	822.7	824.8	829.1	831.3
42.5°	736.5	740.8	736.5	738.7	740.8	743.0	745.2	747.3	755.9	760.3	766.7
45°	667.6	669.8	672.0	674.1	672.0	676.3	678.4	682.7	689.2	691.4	693.4
47.5°	600.8	603.0	605.1	607.3	607.3	611.6	613.7	618.0	622.4	624.5	626.7
50°	536.2	540.5	542.7	542.7	544.9	549.2	553.5	553.5	557.8	564.3	566.4
52.5°	478.1	478.1	482.4	484.6	486.7	486.7	493.2	495.4	497.5	501.8	506.2
55°	413.5	419.9	422.1	422.1	426.4	430.7	432.8	435.0	435.0	443.6	443.6
57.5°	357.5	359.6	364.0	364.0	364.0	370.4	370.4	374.7	376.9	379.0	383.4
60°	301.5	305.8	305.8	308.0	305.8	310.2	312.3	316.6	318.8	320.9	323.0
62.5°	249.8	249.8	251.9	251.9	251.9	251.9	256.3	256.3	260.6	262.7	264.9
65°	200.3	200.3	200.3	200.3	200.3	200.3	200.3	200.3	202.5	202.5	206.8
67.5°	155.0	152.9	148.6	150.7	148.6	148.6	146.4	146.4	148.6	148.6	152.9
70°	112.0	109.9	105.5	105.5	103.4	101.2	99.1	96.9	94.8	94.8	94.8
72.5°	73.2	68.9	62.4	60.3	60.3	55.9	51.6	49.5	49.5	49.5	49.5
75°	36.7	32.3	28.0	25.9	25.9	21.6	23.7	21.6	21.6	21.6	21.6
77.5°	15.1	10.8	8.6	8.6	8.6	6.5	6.5	6.5	6.5	6.5	6.5
80°	4.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
82.5°	2.2	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: P584446

CATALOG NUMBER: HC835D010-HM82555927-81RWWC

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1	1613.1
2.5°	1604.5	1604.5	1600.2	1602.3	1602.3	1602.3	1602.3	1602.3
5°	1585.1	1587.2	1585.1	1587.2	1587.2	1585.1	1585.1	1585.1
7.5°	1565.7	1567.8	1565.7	1567.8	1567.8	1567.8	1565.7	1565.7
10°	1541.9	1541.9	1541.9	1541.9	1541.9	1539.8	1541.9	1541.9
12.5°	1509.7	1509.7	1509.7	1511.9	1511.9	1509.7	1509.7	1507.6
15°	1475.2	1470.9	1473.1	1475.2	1473.1	1473.1	1473.1	1473.1
17.5°	1427.9	1429.9	1427.9	1427.9	1427.9	1427.9	1429.9	1427.9
20°	1378.3	1378.3	1380.5	1378.3	1378.3	1378.3	1378.3	1376.1
22.5°	1322.4	1320.2	1320.2	1322.4	1322.4	1320.2	1322.4	1322.4
25°	1259.8	1262.0	1259.8	1259.8	1262.0	1262.0	1262.0	1259.8
27.5°	1193.1	1195.2	1197.4	1195.2	1195.2	1195.2	1197.4	1199.6
30°	1124.2	1128.5	1124.2	1124.2	1128.5	1126.4	1128.5	1128.5
32.5°	1051.0	1057.5	1053.2	1057.5	1057.5	1059.6	1057.5	1059.6
35°	977.7	984.2	984.2	984.2	986.3	988.5	988.5	986.3
37.5°	908.8	911.0	911.0	915.3	917.4	919.6	919.6	917.4
40°	837.8	842.1	844.2	844.2	844.2	848.5	852.9	848.5
42.5°	768.9	771.0	773.2	773.2	777.5	779.7	781.8	781.8
45°	702.0	706.3	708.5	710.7	712.8	717.1	715.0	719.3
47.5°	633.1	639.6	641.8	643.9	648.2	650.4	652.6	654.7
50°	570.7	575.0	575.0	579.4	585.8	585.8	590.1	592.3
52.5°	508.2	510.3	512.5	514.7	519.0	523.3	523.3	527.6
55°	447.9	450.1	450.1	452.2	454.4	463.0	465.2	465.2
57.5°	385.5	385.5	389.8	392.0	394.1	398.5	398.5	398.5
60°	325.1	327.3	327.3	329.4	331.6	335.9	338.1	335.9
62.5°	264.9	267.0	267.0	269.2	273.5	275.7	273.5	273.5
65°	208.9	211.1	211.1	213.2	217.6	217.6	215.4	217.6
67.5°	152.9	152.9	152.9	152.9	152.9	152.9	152.9	152.9
70°	96.9	94.8	92.6	94.8	94.8	94.8	92.6	96.9
72.5°	47.3	49.5	49.5	49.5	49.5	49.5	49.5	47.3
75°	21.6	21.6	19.4	19.4	19.4	21.6	21.6	19.4
77.5°	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
80°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
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)