

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: P584455

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

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584455  
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: HC835D010-HM82555927-81WWWB  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3048.5 lumens  
Efficiency: N/A  
Efficacy: 90.5 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

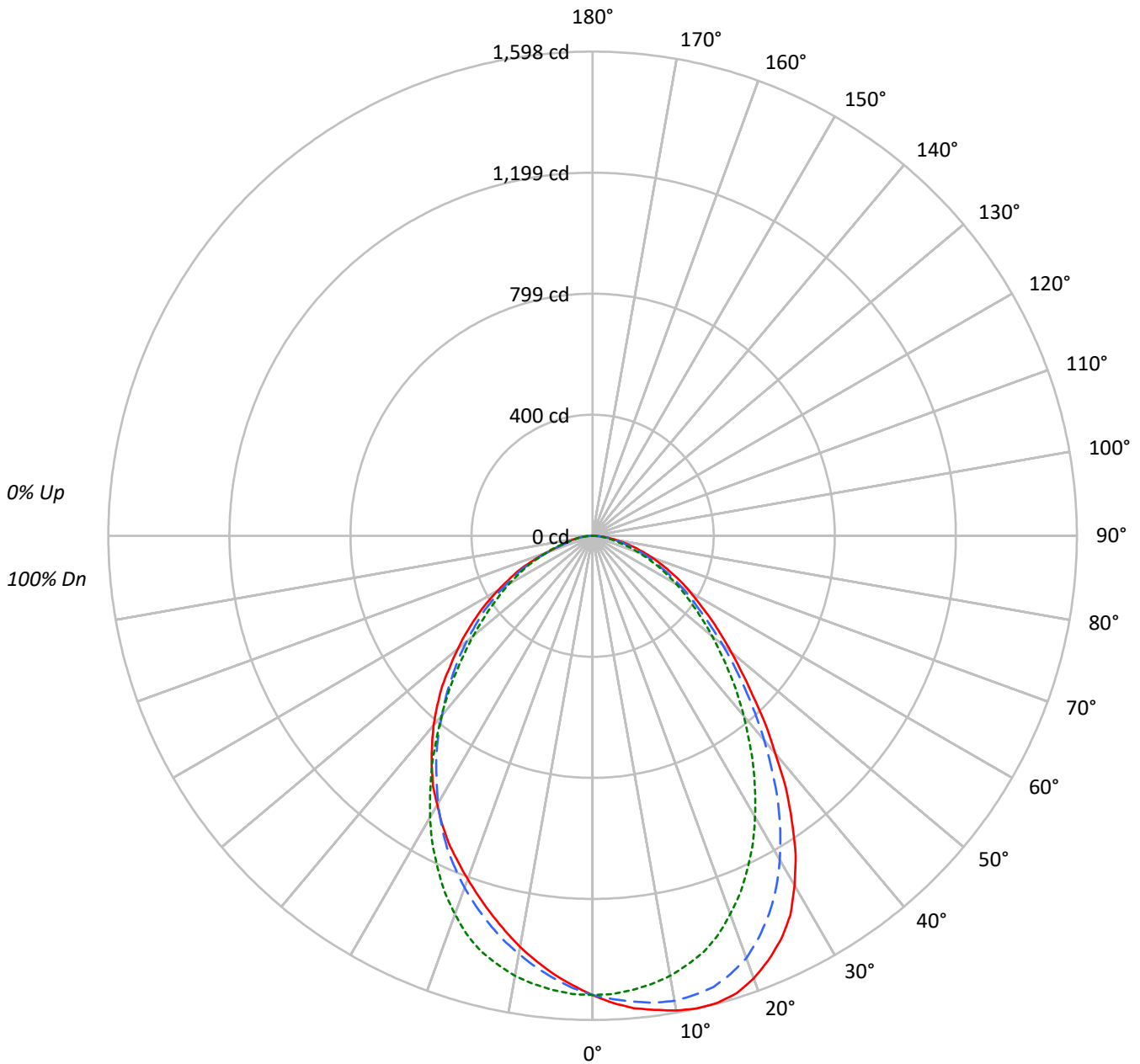
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	46739	46739	46739
5°	48449	46583	44986
10°	49821	46182	43145
15°	50932	45361	41240
20°	51011	43595	39565
25°	50032	41169	38165
30°	47453	38178	36493
35°	43118	34772	34851
40°	37702	31201	32847
45°	32672	27792	30609
50°	28611	24682	27887
55°	25467	21881	25236
60°	22973	19655	22171
65°	20737	17278	19328
70°	18636	14561	14362
75°	16418	11545	10770
80°	13762	9554	10317
85°	10685	8385	9164



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	143.0	4.7
10°-20°	402.7	13.2
20°-30°	575.6	18.9
30°-40°	611.6	20.1
40°-50°	526.6	17.3
50°-60°	393.7	12.9
60°-70°	251.1	8.2
70°-80°	114.3	3.7
80°-90°	30.0	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°	1121.3	36.8
0°-40°	1732.9	56.8
0°-60°	2653.1	87.0
0°-90°	3048.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3048.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1516	1516	1516	1516	1516	
5°	1565	1544	1505	1466	1453	150
15°	1595	1542	1421	1324	1292	449
25°	1470	1378	1210	1137	1122	673
35°	1145	1066	924	900	926	713
45°	749	708	637	654	702	582
55°	474	435	407	441	469	426
65°	284	252	237	248	265	283
75°	138	118	97	88	90	146
85°	30	26	24	26	26	36
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°	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7
2.5°	1543.7	1539.4	1541.6	1539.4	1541.6	1541.6	1537.3	1537.3	1537.3	1537.3	1530.8
5°	1565.2	1563.0	1563.0	1560.9	1558.7	1560.9	1558.7	1556.7	1552.4	1550.2	1543.7
7.5°	1578.1	1578.1	1578.1	1578.1	1576.0	1573.8	1571.7	1567.3	1563.0	1558.7	1554.5
10°	1591.1	1593.2	1591.1	1588.9	1586.8	1582.4	1580.3	1576.0	1569.5	1563.0	1558.7
12.5°	1597.5	1597.5	1595.4	1595.4	1591.1	1588.9	1582.4	1576.0	1569.5	1563.0	1552.4
15°	1595.4	1595.4	1593.2	1591.1	1584.6	1582.4	1578.1	1571.7	1560.9	1552.4	1541.6
17.5°	1582.4	1580.3	1576.0	1576.0	1567.3	1565.2	1560.9	1552.4	1541.6	1528.6	1515.7
20°	1554.5	1554.5	1552.4	1550.2	1541.6	1535.1	1530.8	1520.0	1511.4	1496.3	1483.4
22.5°	1515.7	1520.0	1515.7	1511.4	1500.6	1498.5	1492.0	1479.2	1466.2	1449.0	1433.9
25°	1470.5	1468.4	1466.2	1461.9	1453.3	1449.0	1440.4	1427.4	1414.5	1395.2	1377.9
27.5°	1412.3	1403.8	1403.8	1395.2	1388.7	1382.3	1377.9	1365.0	1347.8	1332.7	1311.2
30°	1332.7	1334.8	1324.1	1322.0	1311.2	1306.9	1298.3	1285.3	1270.2	1253.1	1235.9
32.5°	1246.6	1240.2	1240.2	1231.5	1222.9	1216.4	1214.3	1199.2	1186.3	1169.1	1151.9
35°	1145.4	1145.4	1138.9	1136.8	1128.2	1123.8	1117.4	1108.7	1093.8	1078.7	1065.7
37.5°	1046.3	1042.0	1039.9	1035.6	1029.1	1022.7	1022.7	1007.6	1005.5	988.2	971.0
40°	936.6	940.9	936.6	930.1	928.0	923.7	921.5	912.9	906.4	891.3	880.5
42.5°	844.0	839.7	839.7	837.5	828.9	828.9	824.6	820.3	809.5	805.2	792.4
45°	749.2	753.5	747.1	749.2	740.6	740.6	740.6	732.0	723.4	717.0	708.4
47.5°	667.4	669.6	669.6	663.1	660.9	660.9	656.6	652.3	646.0	637.3	630.9
50°	596.4	598.5	594.2	592.1	587.7	585.6	585.6	577.0	572.6	564.1	559.8
52.5°	531.8	531.8	529.6	529.6	523.2	523.2	518.9	512.4	508.1	503.8	493.1
55°	473.7	473.7	471.5	469.4	469.4	462.9	460.8	454.3	450.0	441.3	434.9
57.5°	417.7	419.8	417.7	415.6	413.4	411.3	407.0	400.5	396.2	389.7	385.4
60°	372.5	372.5	370.3	368.1	363.8	361.7	359.5	355.2	348.7	344.4	338.1
62.5°	329.4	327.3	325.1	323.0	318.7	318.7	314.4	310.0	303.6	299.3	294.9
65°	284.2	284.2	282.0	282.0	279.9	275.5	273.4	271.2	262.7	260.6	251.9
67.5°	243.3	245.5	241.2	241.2	236.8	236.8	234.7	228.2	226.1	221.7	217.4
70°	206.7	206.7	206.7	204.5	200.2	198.0	195.9	191.6	189.5	185.2	180.9
72.5°	170.1	170.1	168.0	168.0	165.8	163.6	161.5	157.2	157.2	152.9	148.6
75°	137.8	137.8	135.6	133.5	131.3	131.3	129.1	127.0	122.7	120.5	118.4
77.5°	105.5	105.5	105.5	103.4	101.2	101.2	101.2	96.9	92.6	92.6	90.4
80°	77.5	77.5	75.4	75.4	73.2	73.2	73.2	71.0	68.9	66.7	64.6
82.5°	51.6	51.6	51.6	51.6	49.5	49.5	49.5	47.3	45.2	45.2	45.2
85°	30.2	30.2	30.2	30.2	28.0	28.0	28.0	28.0	28.0	25.9	25.9
87.5°	12.9	10.8	12.9	10.8	12.9	10.8	12.9	10.8	10.8	10.8	10.8
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°	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7
2.5°	1533.0	1530.8	1528.6	1526.5	1526.5	1524.3	1520.0	1517.9	1515.7	1513.6	1513.6
5°	1541.6	1539.4	1535.1	1530.8	1528.6	1524.3	1520.0	1515.7	1511.4	1504.9	1502.8
7.5°	1548.1	1541.6	1537.3	1528.6	1526.5	1522.2	1515.7	1509.2	1500.6	1492.0	1485.5
10°	1548.1	1539.4	1533.0	1522.2	1517.9	1513.6	1504.9	1494.1	1483.4	1474.9	1464.1
12.5°	1543.7	1533.0	1522.2	1511.4	1504.9	1498.5	1485.5	1474.9	1461.9	1449.0	1440.4
15°	1528.6	1515.7	1502.8	1489.8	1483.4	1474.9	1461.9	1446.8	1433.9	1420.9	1405.9
17.5°	1500.6	1487.7	1472.7	1457.6	1449.0	1442.5	1423.1	1412.3	1393.0	1380.1	1367.2
20°	1464.1	1449.0	1429.6	1414.5	1403.8	1397.3	1382.3	1362.8	1347.8	1328.5	1315.5
22.5°	1416.6	1397.3	1377.9	1362.8	1352.1	1343.4	1324.1	1304.7	1291.8	1274.6	1259.5
25°	1360.7	1341.3	1322.0	1300.4	1289.6	1281.0	1263.8	1246.6	1229.4	1210.0	1197.0
27.5°	1294.0	1272.4	1255.1	1235.9	1225.1	1212.1	1192.7	1175.6	1158.3	1145.4	1128.2
30°	1220.8	1197.0	1179.8	1160.5	1149.7	1138.9	1119.5	1102.3	1087.3	1072.2	1063.6
32.5°	1132.5	1115.2	1098.1	1078.7	1070.1	1063.6	1044.2	1026.9	1009.8	996.9	990.4
35°	1048.5	1029.1	1014.1	996.9	986.1	979.6	962.4	947.4	938.8	923.7	915.0
37.5°	960.2	945.2	928.0	910.7	904.3	897.8	884.8	869.9	856.9	846.1	841.8
40°	867.7	854.8	839.7	828.9	822.4	816.0	805.2	794.5	785.9	775.1	770.8
42.5°	779.4	770.8	757.9	744.9	738.4	736.3	723.4	714.8	710.5	706.2	701.9
45°	699.8	686.8	678.2	669.6	663.1	658.8	652.3	646.0	641.6	637.3	633.0
47.5°	622.2	611.5	602.8	596.4	589.9	587.7	583.4	577.0	572.6	572.6	572.6
50°	551.2	542.6	533.9	529.6	527.5	523.2	518.9	516.7	514.5	514.5	514.5
52.5°	488.8	480.2	473.7	469.4	469.4	465.1	460.8	458.6	458.6	458.6	458.6
55°	430.6	424.1	419.8	415.6	411.3	409.1	409.1	409.1	407.0	407.0	409.1
57.5°	378.9	374.6	368.1	363.8	361.7	361.7	359.5	357.4	359.5	361.7	363.8
60°	331.6	327.3	325.1	318.7	318.7	318.7	316.5	316.5	316.5	318.7	320.8
62.5°	288.5	286.3	282.0	279.9	277.7	277.7	275.5	275.5	275.5	275.5	277.7
65°	249.8	245.5	241.2	241.2	241.2	239.0	239.0	234.7	236.8	236.8	234.7
67.5°	213.1	208.8	206.7	204.5	202.3	202.3	200.2	198.0	195.9	195.9	195.9
70°	178.7	174.4	174.4	170.1	170.1	168.0	165.8	165.8	163.6	161.5	159.3
72.5°	144.2	142.1	139.9	137.8	137.8	137.8	135.6	133.5	131.3	129.1	124.8
75°	114.0	114.0	109.9	107.7	107.7	105.5	103.4	101.2	99.1	96.9	94.8
77.5°	88.3	86.1	81.8	79.7	79.7	79.7	77.5	75.4	73.2	71.0	68.9
80°	64.6	62.4	60.3	58.1	58.1	58.1	55.9	55.9	53.8	53.8	53.8
82.5°	43.0	43.0	40.9	40.9	40.9	40.9	38.7	38.7	38.7	38.7	38.7
85°	25.9	25.9	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7
87.5°	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
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°	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7
2.5°	1509.2	1509.2	1504.9	1502.8	1500.6	1502.8	1498.5	1496.3	1494.1	1494.1	1492.0
5°	1496.3	1494.1	1485.5	1483.4	1481.3	1479.2	1474.9	1470.5	1466.2	1464.1	1461.9
7.5°	1479.2	1472.7	1464.1	1461.9	1459.8	1453.3	1446.8	1442.5	1436.0	1433.9	1429.6
10°	1455.5	1446.8	1440.4	1433.9	1429.6	1423.1	1416.6	1410.2	1401.7	1399.5	1393.0
12.5°	1427.4	1416.6	1403.8	1401.7	1395.2	1386.6	1377.9	1371.5	1365.0	1360.7	1354.2
15°	1393.0	1382.3	1369.3	1362.8	1356.4	1349.9	1339.1	1330.5	1324.1	1317.7	1311.2
17.5°	1352.1	1339.1	1328.5	1322.0	1317.7	1306.9	1298.3	1287.5	1281.0	1274.6	1268.1
20°	1302.6	1291.8	1276.7	1270.2	1268.1	1259.5	1248.8	1244.5	1235.9	1229.4	1225.1
22.5°	1246.6	1235.9	1222.9	1218.6	1210.0	1205.7	1194.9	1190.6	1186.3	1179.8	1177.8
25°	1184.1	1173.4	1162.7	1160.5	1154.0	1149.7	1143.3	1136.8	1136.8	1130.3	1130.3
27.5°	1119.5	1108.7	1100.2	1095.9	1093.8	1089.5	1083.0	1080.8	1078.7	1076.5	1076.5
30°	1050.6	1037.7	1033.4	1031.2	1029.1	1024.9	1022.7	1018.4	1020.6	1022.7	1020.6
32.5°	977.4	973.1	964.5	960.2	962.4	960.2	955.9	960.2	958.0	962.4	964.5
35°	906.4	902.1	897.8	897.8	893.5	893.5	893.5	895.6	899.9	902.1	906.4
37.5°	837.5	831.1	828.9	826.7	828.9	828.9	828.9	833.2	837.5	841.8	848.3
40°	764.3	760.0	760.0	760.0	760.0	766.5	764.3	768.6	772.9	779.4	785.9
42.5°	695.4	695.4	697.6	697.6	697.6	697.6	701.9	708.4	714.8	721.3	727.7
45°	630.9	630.9	630.9	635.2	635.2	637.3	646.0	650.2	654.5	660.9	667.4
47.5°	570.5	570.5	572.6	574.8	577.0	581.3	585.6	592.1	598.5	602.8	609.3
50°	514.5	516.7	521.0	525.3	525.3	527.5	533.9	538.3	542.6	549.0	551.2
52.5°	460.8	465.1	469.4	471.5	473.7	478.0	480.2	486.6	488.8	495.1	497.3
55°	411.3	413.4	419.8	421.9	421.9	426.2	430.6	434.9	441.3	441.3	445.7
57.5°	366.0	368.1	372.5	374.6	372.5	378.9	381.1	385.4	387.6	391.9	394.0
60°	320.8	325.1	327.3	327.3	329.4	331.6	335.9	335.9	340.2	344.4	344.4
62.5°	277.7	279.9	282.0	284.2	286.3	284.2	290.6	290.6	294.9	297.1	301.4
65°	236.8	239.0	239.0	241.2	241.2	243.3	243.3	245.5	247.6	251.9	254.1
67.5°	195.9	195.9	195.9	198.0	195.9	198.0	198.0	200.2	200.2	204.5	206.7
70°	159.3	157.2	155.0	155.0	155.0	155.0	152.9	155.0	155.0	157.2	157.2
72.5°	122.7	120.5	118.4	116.2	116.2	114.0	112.0	114.0	114.0	116.2	116.2
75°	92.6	88.3	88.3	88.3	86.1	86.1	86.1	88.3	88.3	88.3	90.4
77.5°	68.9	68.9	66.7	66.7	66.7	68.9	68.9	71.0	71.0	71.0	71.0
80°	51.6	53.8	53.8	53.8	53.8	55.9	55.9	55.9	55.9	58.1	58.1
82.5°	38.7	38.7	38.7	38.7	40.9	40.9	40.9	40.9	40.9	40.9	40.9
85°	23.7	25.9	25.9	23.7	25.9	25.9	25.9	25.9	25.9	25.9	25.9
87.5°	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
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: P584455

CATALOG NUMBER: HC835D010-HM82555927-81WWWB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7	1515.7
2.5°	1489.8	1489.8	1489.8	1489.8	1487.7	1487.7	1487.7	1485.5
5°	1457.6	1457.6	1457.6	1453.3	1455.5	1455.5	1451.1	1453.3
7.5°	1425.3	1423.1	1420.9	1420.9	1418.8	1416.6	1414.5	1416.6
10°	1388.7	1382.3	1382.3	1380.1	1380.1	1375.8	1375.8	1377.9
12.5°	1347.8	1343.4	1343.4	1341.3	1339.1	1337.0	1334.8	1334.8
15°	1306.9	1302.6	1300.4	1298.3	1296.1	1291.8	1294.0	1291.8
17.5°	1265.9	1259.5	1259.5	1257.3	1255.1	1251.0	1251.0	1248.8
20°	1218.6	1216.4	1212.1	1214.3	1212.1	1207.8	1205.7	1205.7
22.5°	1171.3	1171.3	1169.1	1169.1	1167.0	1164.8	1162.7	1162.7
25°	1126.0	1123.8	1126.0	1126.0	1119.5	1119.5	1119.5	1121.7
27.5°	1074.4	1076.5	1074.4	1074.4	1074.4	1074.4	1076.5	1074.4
30°	1022.7	1022.7	1022.7	1024.9	1029.1	1026.9	1026.9	1024.9
32.5°	966.7	968.8	968.8	971.0	973.1	977.4	977.4	979.6
35°	910.7	915.0	917.2	915.0	921.5	921.5	925.8	925.8
37.5°	852.6	854.8	859.1	861.2	865.6	867.7	869.9	869.9
40°	790.2	798.7	800.9	803.0	809.5	809.5	811.6	816.0
42.5°	732.0	740.6	742.8	744.9	749.2	755.7	753.5	757.9
45°	676.0	682.5	684.7	686.8	693.3	695.4	695.4	701.9
47.5°	615.8	620.1	622.2	626.6	630.9	635.2	639.5	637.3
50°	555.5	562.0	566.3	568.5	574.8	577.0	579.1	581.3
52.5°	501.6	505.9	508.1	510.2	516.7	518.9	521.0	525.3
55°	450.0	452.1	456.4	454.3	460.8	462.9	465.1	469.4
57.5°	398.3	400.5	402.6	402.6	407.0	411.3	413.4	415.6
60°	348.7	353.1	355.2	355.2	355.2	359.5	359.5	359.5
62.5°	303.6	303.6	305.7	305.7	310.0	310.0	310.0	310.0
65°	256.3	258.4	260.6	260.6	264.9	262.7	266.9	264.9
67.5°	206.7	206.7	211.0	211.0	208.8	211.0	211.0	211.0
70°	157.2	157.2	159.3	159.3	159.3	159.3	159.3	159.3
72.5°	116.2	116.2	116.2	118.4	116.2	116.2	118.4	116.2
75°	90.4	90.4	90.4	90.4	90.4	90.4	90.4	90.4
77.5°	71.0	71.0	73.2	73.2	73.2	73.2	73.2	73.2
80°	58.1	58.1	58.1	58.1	60.3	58.1	58.1	58.1
82.5°	43.0	40.9	43.0	40.9	43.0	43.0	43.0	43.0
85°	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9
87.5°	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
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)