

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: P584454

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

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584454  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-16)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC835D010-HM82555927-81WWW  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2927.9 lumens  
Efficiency: N/A  
Efficacy: 86.9 lumens/watt  
Spacing Criteria (0/90/45): 1.09 / 1.04 / 1.13  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

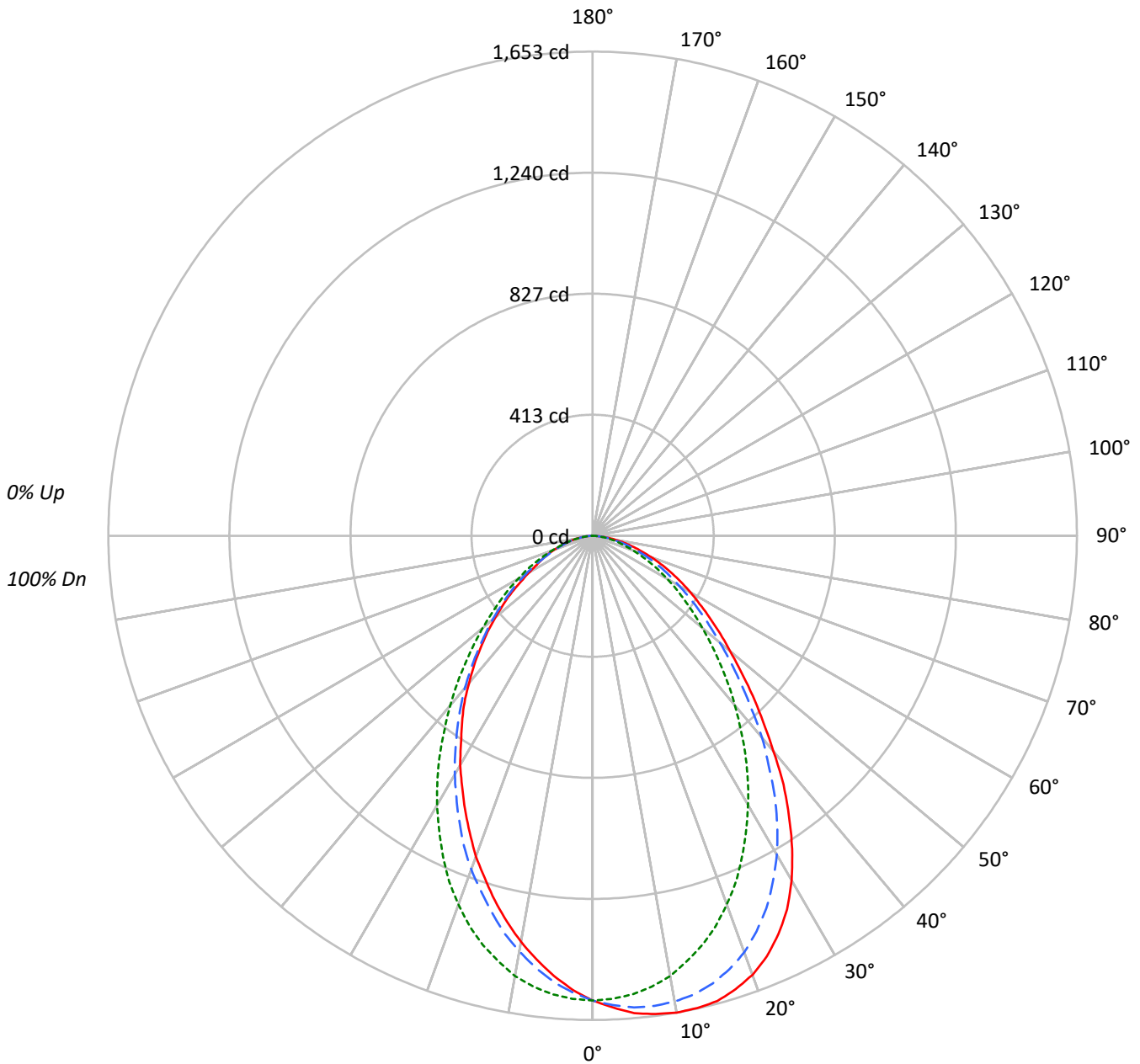
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P584454

CATALOG NUMBER: HC835D010-HM82555927-81WWW

### Luminous Intensity Polar Plot





TEST NUMBER: P584454

CATALOG NUMBER: HC835D010-HM82555927-81WWW

**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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	93	91	89	87								
2	102	95	89	84	99	93	88	83	90	85	81	86	83	79	83	80	78	76								
3	94	85	78	72	92	83	77	71	81	75	70	78	73	69	75	71	68	66								
4	87	76	69	63	85	75	68	62	73	67	62	71	65	61	68	64	60	58								
5	81	69	61	55	79	68	61	55	66	60	54	64	59	54	63	57	53	51								
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46								
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	41								
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38								
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34								
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	32								

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

	0°	90°	180°
0°	48922	48922	48922
5°	50641	48641	46710
10°	51765	47792	44081
15°	52502	46181	41163
20°	52344	43936	38217
25°	51050	41088	35082
30°	48365	37786	32192
35°	44002	34196	29253
40°	38648	30416	26427
45°	33701	26754	23562
50°	29326	23444	20758
55°	26155	20596	18053
60°	23762	18058	15400
65°	21364	15709	13980
70°	19024	13398	12613
75°	16668	11295	10770
80°	14153	9163	9554
85°	10685	6864	7642



TEST NUMBER: P584454

CATALOG NUMBER: HC835D010-HM82555927-81WWW

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.6	5.1
10°-20°	409.4	14.0
20°-30°	568.3	19.4
30°-40°	587.6	20.1
40°-50°	492.0	16.8
50°-60°	357.2	12.2
60°-70°	225.4	7.7
70°-80°	111.6	3.8
80°-90°	27.8	0.9
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°	1126.4	38.5
0°-40°	1714.0	58.5
0°-60°	2563.1	87.5
0°-90°	2927.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2927.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1586	1586	1586	1586	1586	
5°	1636	1617	1571	1528	1509	156
15°	1645	1582	1447	1330	1289	463
25°	1500	1404	1208	1076	1031	688
35°	1169	1083	908	805	777	728
45°	773	717	614	553	540	598
55°	486	444	383	351	336	439
65°	293	256	215	189	192	292
75°	140	116	95	90	90	150
85°	30	24	19	22	22	37
90°	0	0	0	0	0	



TEST NUMBER: P584454

CATALOG NUMBER: HC835D010-HM82555927-81WWW

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5
2.5°	1612.3	1612.3	1614.4	1612.3	1612.3	1612.3	1610.1	1610.1	1608.0	1608.0	1603.8
5°	1636.0	1631.7	1636.0	1631.7	1631.7	1631.7	1629.5	1625.2	1623.1	1618.7	1616.6
7.5°	1646.8	1644.6	1644.6	1642.5	1642.5	1640.3	1638.1	1636.0	1627.4	1625.2	1618.7
10°	1653.2	1651.1	1651.1	1648.9	1644.6	1644.6	1640.3	1638.1	1627.4	1623.1	1614.4
12.5°	1651.1	1651.1	1651.1	1648.9	1642.5	1640.3	1636.0	1629.5	1620.9	1612.3	1603.8
15°	1644.6	1644.6	1640.3	1638.1	1631.7	1627.4	1625.2	1614.4	1605.8	1595.1	1582.2
17.5°	1623.1	1623.1	1620.9	1616.6	1610.1	1605.8	1601.6	1590.8	1582.2	1564.9	1552.0
20°	1595.1	1593.0	1590.8	1584.4	1577.9	1575.7	1569.3	1554.2	1543.4	1530.6	1513.3
22.5°	1554.2	1552.0	1549.9	1545.5	1534.9	1530.6	1526.3	1515.5	1496.1	1483.1	1461.7
25°	1500.4	1500.4	1496.1	1489.6	1478.8	1474.5	1468.0	1457.4	1440.1	1420.7	1403.5
27.5°	1438.0	1435.8	1429.3	1425.0	1416.4	1409.9	1399.3	1386.3	1369.1	1354.0	1332.4
30°	1358.3	1358.3	1354.0	1347.5	1336.7	1332.4	1323.9	1308.8	1291.6	1272.2	1257.2
32.5°	1267.8	1267.8	1261.5	1257.2	1250.7	1239.9	1237.8	1220.5	1205.4	1190.5	1173.2
35°	1168.9	1171.0	1166.7	1158.1	1147.3	1147.3	1143.0	1127.9	1110.8	1095.7	1082.8
37.5°	1069.8	1063.3	1061.2	1057.0	1050.5	1041.9	1037.6	1031.1	1016.0	1005.2	986.0
40°	960.1	962.2	957.9	953.6	951.5	945.0	942.8	932.0	921.4	908.4	899.8
42.5°	861.0	861.0	861.0	856.7	852.5	846.0	843.9	837.4	824.5	815.8	802.9
45°	772.8	766.4	766.4	764.2	762.0	757.7	751.3	747.0	738.3	731.9	716.9
47.5°	686.7	688.8	686.7	684.5	678.1	675.9	673.8	665.1	656.5	650.0	639.4
50°	611.3	615.7	611.3	611.3	607.0	604.9	600.6	594.1	587.6	577.0	566.2
52.5°	548.9	548.9	546.8	544.6	538.1	533.8	531.7	529.5	518.7	510.2	501.6
55°	486.5	488.7	488.7	482.2	480.0	475.7	473.6	467.1	462.8	449.8	443.5
57.5°	432.7	430.6	432.7	428.4	424.1	419.8	417.6	413.3	406.8	398.2	389.6
60°	385.3	381.0	381.0	378.8	374.6	372.5	368.1	361.7	355.2	346.6	340.1
62.5°	338.0	335.8	333.6	331.5	327.2	325.0	322.9	316.4	309.9	303.6	297.1
65°	292.8	292.8	290.6	286.3	284.2	282.0	279.9	275.5	266.9	262.6	256.1
67.5°	251.8	249.7	249.7	245.4	241.0	239.0	239.0	234.7	228.2	221.7	217.4
70°	211.0	213.1	211.0	208.8	204.5	204.5	200.2	198.0	189.4	187.2	180.8
72.5°	174.3	174.3	172.2	172.2	168.0	165.8	165.8	161.5	157.2	152.9	148.6
75°	139.9	139.9	139.9	137.8	135.6	131.3	131.3	129.1	124.8	120.5	116.2
77.5°	109.7	107.6	107.6	105.4	103.3	101.2	101.2	99.1	94.8	92.6	88.3
80°	79.7	77.5	77.5	77.5	73.2	75.4	73.2	71.0	68.9	66.7	64.6
82.5°	51.6	53.8	53.8	51.6	49.5	49.5	49.5	47.3	47.3	45.2	43.0
85°	30.2	30.2	30.2	30.2	28.0	28.0	28.0	25.9	25.9	25.9	23.7
87.5°	12.9	12.9	12.9	12.9	12.9	12.9	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: P584454

CATALOG NUMBER: HC835D010-HM82555927-81WWW

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5
2.5°	1603.8	1599.4	1597.3	1595.1	1595.1	1593.0	1590.8	1586.5	1586.5	1582.2	1580.0
5°	1612.3	1605.8	1601.6	1597.3	1595.1	1590.8	1586.5	1580.0	1577.9	1571.4	1564.9
7.5°	1614.4	1603.8	1599.4	1590.8	1586.5	1582.2	1573.6	1567.1	1558.5	1552.0	1543.4
10°	1605.8	1597.3	1586.5	1575.7	1573.6	1567.1	1554.2	1545.5	1534.9	1526.3	1513.3
12.5°	1593.0	1580.0	1569.3	1556.3	1549.9	1543.4	1530.6	1517.6	1502.5	1487.4	1474.5
15°	1571.4	1556.3	1541.2	1526.3	1517.6	1511.2	1496.1	1481.0	1466.0	1446.6	1433.6
17.5°	1539.1	1521.9	1506.8	1487.4	1478.8	1472.3	1453.1	1435.8	1416.4	1397.1	1384.2
20°	1498.2	1476.7	1459.5	1438.0	1431.5	1420.7	1401.3	1382.0	1360.4	1338.9	1323.9
22.5°	1444.4	1422.9	1403.5	1382.0	1371.2	1360.4	1341.0	1317.4	1295.9	1278.6	1263.5
25°	1382.0	1362.6	1338.9	1319.6	1306.7	1293.7	1272.2	1252.9	1233.5	1207.6	1192.6
27.5°	1313.1	1289.4	1272.2	1246.4	1233.5	1224.8	1201.1	1175.4	1158.1	1134.4	1117.3
30°	1235.6	1214.1	1194.8	1168.9	1156.0	1147.3	1125.9	1102.2	1084.9	1061.2	1044.1
32.5°	1153.8	1130.1	1106.5	1089.2	1074.1	1065.5	1041.9	1026.8	1005.2	986.0	966.5
35°	1065.5	1041.9	1024.6	1000.9	992.3	983.8	964.4	945.0	925.6	908.4	893.3
37.5°	970.9	953.6	934.2	917.1	910.6	902.0	878.3	861.0	846.0	828.8	815.8
40°	878.3	863.2	850.3	833.1	822.3	815.8	798.6	783.6	766.4	755.6	742.6
42.5°	794.3	777.1	764.2	751.3	740.5	734.0	718.9	708.3	695.3	684.5	669.4
45°	706.1	697.5	682.4	671.6	665.1	656.5	645.8	632.9	622.1	613.5	602.7
47.5°	628.6	620.0	609.2	596.2	591.9	585.5	574.8	566.2	557.5	548.9	538.1
50°	557.5	546.8	538.1	529.5	525.2	518.7	508.1	503.8	497.3	488.7	482.2
52.5°	493.0	484.4	475.7	464.9	462.8	458.5	452.0	443.5	437.0	432.7	428.4
55°	434.9	426.2	419.8	411.2	409.0	404.7	396.1	391.7	387.4	383.1	378.8
57.5°	383.1	374.6	366.0	361.7	357.4	353.1	350.9	344.4	340.1	338.0	333.6
60°	335.8	327.2	320.7	314.2	312.1	309.9	305.7	301.4	297.1	292.8	290.6
62.5°	290.6	282.0	277.7	273.4	269.1	269.1	264.8	260.4	256.1	254.0	249.7
65°	249.7	245.4	239.0	232.5	230.4	230.4	223.9	221.7	219.6	215.3	211.0
67.5°	211.0	206.7	200.2	198.0	195.9	193.7	191.6	187.2	182.9	180.8	176.5
70°	176.5	172.2	168.0	165.8	163.6	161.5	157.2	155.0	150.7	148.6	146.4
72.5°	142.1	139.9	135.6	133.5	131.3	129.1	127.0	124.8	120.5	118.4	116.2
75°	114.0	111.9	107.6	105.4	103.3	103.3	101.2	96.9	94.8	94.8	92.6
77.5°	86.1	84.0	81.8	79.7	77.5	77.5	75.4	73.2	71.0	71.0	68.9
80°	62.4	60.3	58.1	58.1	58.1	55.9	53.8	53.8	51.6	51.6	49.5
82.5°	40.9	40.9	38.7	38.7	38.7	36.5	36.5	34.4	34.4	34.4	34.4
85°	23.7	23.7	23.7	21.6	21.6	21.6	21.6	21.6	21.6	19.4	21.6
87.5°	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	8.6	8.6	8.6
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: P584454

CATALOG NUMBER: HC835D010-HM82555927-81WWW

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5
2.5°	1577.9	1575.7	1571.4	1571.4	1567.1	1567.1	1564.9	1562.8	1560.6	1558.5	1556.3
5°	1562.8	1554.2	1549.9	1547.7	1543.4	1541.2	1534.9	1530.6	1528.4	1524.1	1519.8
7.5°	1534.9	1526.3	1517.6	1515.5	1513.3	1504.7	1498.2	1491.7	1487.4	1483.1	1478.8
10°	1502.5	1493.9	1483.1	1478.8	1474.5	1463.8	1455.2	1448.7	1440.1	1431.5	1429.3
12.5°	1463.8	1450.9	1438.0	1433.6	1427.2	1416.4	1407.8	1397.1	1390.6	1379.9	1377.7
15°	1418.6	1403.5	1392.8	1382.0	1377.7	1366.9	1351.8	1343.2	1330.4	1326.1	1315.3
17.5°	1364.8	1349.7	1334.6	1330.4	1323.9	1308.8	1293.7	1282.9	1270.0	1263.5	1257.2
20°	1308.8	1289.4	1274.3	1270.0	1261.5	1248.6	1233.5	1222.7	1211.9	1199.0	1192.6
22.5°	1244.2	1222.7	1209.7	1199.0	1196.8	1181.8	1164.6	1156.0	1147.3	1136.5	1127.9
25°	1173.2	1153.8	1138.7	1130.1	1125.9	1112.9	1100.0	1089.2	1076.3	1069.8	1059.0
27.5°	1100.0	1087.1	1067.7	1059.0	1052.7	1041.9	1026.8	1020.3	1007.4	998.8	992.3
30°	1029.0	1009.6	998.8	988.1	981.6	970.9	957.9	951.5	940.7	932.0	925.6
32.5°	951.5	938.5	923.4	919.2	910.6	899.8	891.2	880.4	871.8	863.2	861.0
35°	880.4	863.2	848.2	843.9	837.4	826.6	822.3	815.8	805.1	802.9	794.3
37.5°	802.9	794.3	777.1	770.7	768.5	759.9	751.3	747.0	740.5	734.0	731.9
40°	729.7	718.9	710.4	703.9	699.6	693.2	684.5	682.4	678.1	669.4	667.3
42.5°	660.8	650.0	641.5	639.4	632.9	626.4	622.1	615.7	613.5	611.3	607.0
45°	594.1	587.6	579.1	577.0	574.8	566.2	561.9	557.5	553.2	551.1	546.8
47.5°	533.8	527.4	520.9	518.7	514.4	512.3	505.9	503.8	497.3	495.1	493.0
50°	475.7	471.4	467.1	464.9	460.6	458.5	454.2	449.8	445.5	443.5	441.3
52.5°	424.1	419.8	415.5	413.3	411.2	406.8	402.5	398.2	396.1	393.9	391.7
55°	374.6	370.3	368.1	366.0	363.8	361.7	355.2	353.1	350.9	348.7	344.4
57.5°	329.3	325.0	320.7	320.7	318.5	316.4	312.1	307.8	307.8	303.6	299.3
60°	288.5	284.2	279.9	277.7	275.5	271.2	269.1	266.9	264.8	262.6	258.3
62.5°	245.4	243.2	239.0	239.0	234.7	232.5	230.4	228.2	226.1	221.7	219.6
65°	208.8	206.7	202.3	200.2	200.2	198.0	193.7	191.6	189.4	189.4	187.2
67.5°	174.3	172.2	168.0	165.8	165.8	163.6	161.5	161.5	159.3	157.2	159.3
70°	144.2	139.9	139.9	137.8	137.8	135.6	133.5	133.5	133.5	135.6	135.6
72.5°	114.0	111.9	109.7	109.7	109.7	109.7	107.6	107.6	109.7	111.9	111.9
75°	90.4	88.3	88.3	88.3	86.1	86.1	88.3	88.3	90.4	90.4	90.4
77.5°	66.7	66.7	66.7	66.7	66.7	66.7	68.9	68.9	71.0	71.0	71.0
80°	49.5	49.5	49.5	49.5	49.5	51.6	51.6	51.6	51.6	51.6	53.8
82.5°	34.4	34.4	34.4	34.4	34.4	34.4	34.4	36.5	36.5	36.5	36.5
85°	19.4	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6
87.5°	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
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: P584454

CATALOG NUMBER: HC835D010-HM82555927-81WWW

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5	1586.5
2.5°	1554.2	1554.2	1554.2	1556.3	1552.0	1552.0	1552.0	1552.0
5°	1517.6	1515.5	1513.3	1515.5	1511.2	1511.2	1509.0	1509.0
7.5°	1472.3	1470.2	1468.0	1468.0	1463.8	1463.8	1461.7	1459.5
10°	1422.9	1418.6	1420.7	1416.4	1414.2	1412.1	1409.9	1407.8
12.5°	1369.1	1364.8	1362.6	1358.3	1354.0	1351.8	1354.0	1349.7
15°	1311.0	1304.5	1302.3	1298.0	1293.7	1291.6	1291.6	1289.4
17.5°	1246.4	1242.1	1239.9	1235.6	1233.5	1229.1	1227.0	1224.8
20°	1186.1	1175.4	1177.5	1173.2	1171.0	1162.4	1162.4	1164.6
22.5°	1119.4	1112.9	1108.6	1104.3	1102.2	1097.8	1097.8	1095.7
25°	1052.7	1046.2	1044.1	1039.7	1037.6	1033.3	1031.1	1031.1
27.5°	988.1	979.5	979.5	975.2	970.9	968.7	966.5	964.4
30°	919.2	912.8	910.6	910.6	908.4	908.4	902.0	904.1
32.5°	854.5	850.3	848.2	843.9	843.9	841.7	841.7	835.2
35°	790.0	783.6	785.6	781.5	779.3	777.1	779.3	777.1
37.5°	727.5	723.2	723.2	718.9	718.9	716.9	714.7	718.9
40°	665.1	663.0	660.8	658.7	660.8	658.7	654.3	656.5
42.5°	602.7	602.7	600.6	600.6	598.4	598.4	598.4	598.4
45°	546.8	544.6	544.6	542.5	542.5	542.5	542.5	540.3
47.5°	490.8	488.7	488.7	488.7	486.5	486.5	484.4	486.5
50°	437.0	437.0	434.9	434.9	437.0	434.9	432.7	432.7
52.5°	387.4	387.4	385.3	385.3	383.1	381.0	383.1	383.1
55°	342.3	340.1	338.0	338.0	335.8	333.6	333.6	335.8
57.5°	299.3	297.1	294.9	294.9	290.6	288.5	288.5	288.5
60°	258.3	254.0	254.0	251.8	251.8	249.7	249.7	249.7
62.5°	219.6	217.4	217.4	217.4	217.4	215.3	215.3	215.3
65°	187.2	187.2	187.2	189.4	189.4	191.6	191.6	191.6
67.5°	161.5	163.6	163.6	163.6	165.8	165.8	165.8	163.6
70°	137.8	137.8	137.8	139.9	139.9	139.9	139.9	139.9
72.5°	114.0	114.0	114.0	114.0	114.0	114.0	114.0	114.0
75°	90.4	92.6	92.6	92.6	90.4	92.6	92.6	90.4
77.5°	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0
80°	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8
82.5°	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5
85°	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6
87.5°	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
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)