

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: P584453

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584453
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: HC835D010-HM82555927-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2682.5 lumens
Efficiency: N/A
Efficacy: 79.6 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

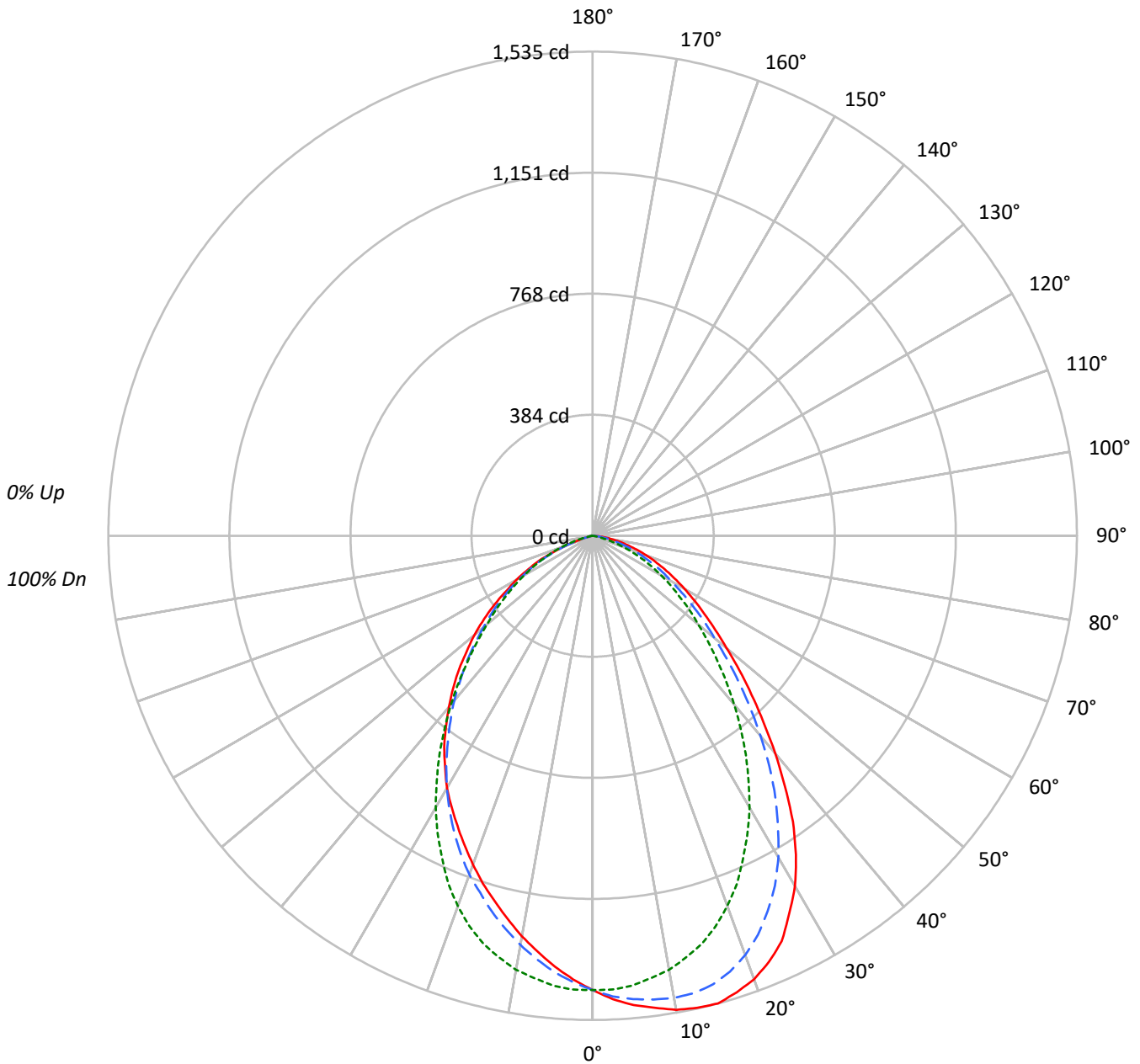
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	44407	44407	44407
5°	46242	44311	42444
10°	47792	43746	40374
15°	49000	42743	38280
20°	49095	40973	36379
25°	48267	38379	34497
30°	45680	35411	32883
35°	41653	31847	30876
40°	36221	28077	28512
45°	31076	24312	26096
50°	26539	20964	23444
55°	23263	18053	20365
60°	20710	15400	17126
65°	18373	12565	13659
70°	16301	9313	7763
75°	13582	4873	2311
80°	10708	1527	391
85°	7642	778	0



TEST NUMBER: P584453

CATALOG NUMBER: HC835D010-HM82555927-81WWBB

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.7	5.1
10°-20°	380.3	14.2
20°-30°	538.3	20.1
30°-40°	563.2	21.0
40°-50°	469.7	17.5
50°-60°	333.1	12.4
60°-70°	191.9	7.2
70°-80°	61.7	2.3
80°-90°	8.5	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°	1054.4	39.3
0°-40°	1617.5	60.3
0°-60°	2420.4	90.2
0°-90°	2682.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2682.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1440	1440	1440	1440	1440	
5°	1494	1474	1432	1388	1371	143
15°	1535	1472	1339	1234	1199	432
25°	1419	1313	1128	1038	1014	647
35°	1106	1010	846	801	820	686
45°	713	654	558	564	598	552
55°	433	387	336	353	379	391
65°	252	211	172	172	187	252
75°	114	84	41	19	19	124
85°	22	11	2	0	0	27
90°	0	0	0	0	0	



TEST NUMBER: P584453

CATALOG NUMBER: HC835D010-HM82555927-81WWBB

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	1470.3	1468.1	1466.0	1468.1	1466.0	1468.1	1466.0	1466.0	1463.8	1461.7	1461.7
5°	1493.9	1491.7	1491.7	1491.7	1489.6	1487.4	1487.4	1485.3	1481.0	1478.8	1474.5
7.5°	1509.0	1511.2	1511.2	1511.2	1506.8	1506.8	1502.5	1498.2	1493.9	1489.6	1483.1
10°	1526.3	1526.3	1524.1	1521.9	1517.6	1515.5	1513.3	1509.0	1502.5	1493.9	1487.4
12.5°	1532.7	1532.7	1530.6	1526.3	1524.1	1521.9	1519.8	1513.3	1504.7	1493.9	1485.3
15°	1534.9	1530.6	1528.4	1526.3	1521.9	1515.5	1515.5	1506.8	1496.1	1483.1	1472.5
17.5°	1517.6	1519.8	1515.5	1511.2	1504.7	1500.4	1493.9	1487.4	1474.5	1459.5	1448.7
20°	1496.1	1493.9	1491.7	1485.3	1476.7	1474.5	1468.1	1457.4	1446.6	1429.3	1414.2
22.5°	1461.7	1459.5	1455.2	1450.9	1442.3	1438.0	1431.5	1418.6	1403.6	1386.3	1369.1
25°	1418.6	1414.2	1407.8	1399.3	1392.8	1388.5	1379.9	1366.9	1349.7	1330.4	1313.1
27.5°	1349.7	1356.1	1351.8	1338.9	1332.5	1323.9	1321.8	1304.5	1289.4	1270.0	1250.7
30°	1282.9	1282.9	1276.5	1270.0	1259.3	1252.9	1244.2	1231.3	1216.2	1192.6	1177.5
32.5°	1199.1	1196.9	1188.3	1186.1	1177.5	1164.6	1162.4	1145.2	1130.2	1112.9	1093.5
35°	1106.5	1102.2	1093.5	1087.1	1082.8	1076.3	1069.8	1054.8	1039.7	1022.5	1009.6
37.5°	1000.9	1000.9	998.8	988.1	983.8	979.5	973.0	957.9	949.3	932.0	919.2
40°	899.8	897.7	891.2	889.0	884.7	878.3	873.9	865.3	852.5	839.6	826.6
42.5°	800.7	802.9	794.3	796.4	787.9	783.6	781.5	768.5	762.0	749.1	738.3
45°	712.6	710.4	706.1	703.9	699.6	695.3	691.0	684.5	673.8	660.8	654.3
47.5°	630.7	624.3	624.3	622.1	620.0	611.3	609.2	602.7	596.2	583.3	574.8
50°	553.2	553.2	553.2	551.1	544.6	542.5	538.1	531.7	525.2	516.6	503.8
52.5°	490.8	490.8	490.8	488.7	480.0	477.9	475.7	467.1	458.5	452.0	443.5
55°	432.7	434.9	432.7	428.4	421.9	421.9	415.5	411.2	402.5	396.1	387.4
57.5°	383.1	383.1	378.8	376.8	372.5	370.3	366.0	361.7	350.9	344.4	333.6
60°	335.8	333.6	333.6	329.3	325.0	320.7	318.5	312.1	307.9	297.1	288.5
62.5°	292.8	292.8	288.5	288.5	279.9	279.9	277.7	271.2	264.8	254.0	249.7
65°	251.8	251.8	249.7	247.5	241.0	239.0	236.8	230.4	223.9	217.4	211.0
67.5°	215.3	215.3	211.0	208.8	204.5	202.3	198.0	193.7	187.2	180.8	174.3
70°	180.8	178.6	176.5	174.3	170.1	168.0	163.6	159.3	152.9	148.6	142.1
72.5°	146.4	146.4	144.2	139.9	137.8	135.6	133.5	129.1	122.7	116.2	111.9
75°	114.0	114.0	114.0	109.7	105.4	103.3	103.3	99.1	94.8	88.3	84.0
77.5°	88.3	86.1	84.0	84.0	79.7	77.5	75.4	73.2	66.7	64.6	60.3
80°	60.3	62.4	60.3	58.1	55.9	53.8	53.8	49.5	47.3	43.0	38.7
82.5°	40.9	38.7	38.7	36.5	36.5	34.4	34.4	30.2	28.0	25.9	23.7
85°	21.6	21.6	19.4	19.4	19.4	17.3	17.3	15.1	15.1	12.9	10.8
87.5°	6.5	6.5	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



TEST NUMBER: P584453

CATALOG NUMBER: HC835D010-HM82555927-81WWBB

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	1459.5	1455.2	1453.1	1453.1	1450.9	1448.7	1446.6	1444.4	1440.1	1440.1	1435.8
5°	1470.3	1466.0	1463.8	1457.4	1453.1	1453.1	1444.4	1442.3	1435.8	1431.5	1427.2
7.5°	1478.8	1470.3	1463.8	1457.4	1453.1	1448.7	1440.1	1431.5	1422.9	1414.2	1409.9
10°	1478.8	1470.3	1459.5	1448.7	1444.4	1440.1	1429.3	1416.4	1405.7	1397.1	1386.3
12.5°	1474.5	1461.7	1448.7	1440.1	1431.5	1425.0	1412.1	1399.3	1386.3	1369.1	1360.4
15°	1461.7	1444.4	1431.5	1416.4	1409.9	1399.3	1388.5	1369.1	1354.0	1338.9	1328.2
17.5°	1435.8	1414.2	1399.3	1384.2	1373.4	1366.9	1349.7	1332.5	1315.3	1298.0	1285.1
20°	1397.1	1377.7	1360.4	1341.0	1332.5	1323.9	1302.3	1285.1	1268.0	1248.6	1235.6
22.5°	1349.7	1330.4	1306.7	1291.6	1278.6	1268.0	1248.6	1229.1	1211.9	1194.8	1177.5
25°	1291.6	1272.2	1250.7	1227.0	1218.4	1207.6	1186.1	1166.7	1147.3	1128.0	1112.9
27.5°	1229.1	1203.3	1186.1	1160.3	1151.6	1140.9	1117.3	1095.7	1078.4	1063.3	1046.2
30°	1153.8	1134.4	1110.8	1087.1	1078.4	1067.7	1048.4	1029.0	1011.7	994.5	977.3
32.5°	1072.0	1052.7	1029.0	1011.7	998.8	990.3	970.9	953.6	936.4	919.2	904.1
35°	986.0	964.4	947.1	929.9	919.2	908.4	889.0	873.9	861.0	846.0	830.9
37.5°	897.7	882.6	865.3	846.0	835.2	826.6	811.5	794.3	783.6	770.7	759.9
40°	811.5	794.3	779.3	762.0	753.4	747.0	731.9	719.0	708.3	697.5	691.0
42.5°	723.2	708.3	693.2	682.4	675.9	669.4	658.7	643.7	637.2	626.4	620.0
45°	641.5	628.6	617.8	602.7	598.4	594.1	581.3	570.5	564.0	557.5	553.2
47.5°	564.0	555.4	542.5	533.8	527.4	523.0	514.4	505.9	499.4	495.1	490.8
50°	497.3	486.5	477.9	469.3	464.9	458.5	449.8	445.7	441.3	437.0	437.0
52.5°	434.9	424.1	415.5	409.0	404.7	400.4	393.9	391.7	387.4	387.4	385.3
55°	376.8	370.3	361.7	353.1	350.9	348.7	344.4	340.1	338.0	335.8	338.0
57.5°	327.2	320.7	312.1	305.7	303.6	301.4	299.3	294.9	292.8	292.8	292.8
60°	282.0	275.5	269.1	262.6	262.6	258.3	256.1	254.0	251.8	249.7	249.7
62.5°	241.0	234.7	228.2	223.9	221.7	219.6	215.3	213.1	211.0	211.0	208.8
65°	204.5	195.9	193.7	187.2	185.1	182.9	180.8	176.5	174.3	172.2	170.1
67.5°	168.0	163.6	157.2	152.9	150.7	148.6	146.4	142.1	139.9	137.8	133.5
70°	135.6	131.3	127.0	122.7	120.5	118.4	114.0	109.7	107.6	103.3	96.9
72.5°	105.4	101.2	96.9	92.6	90.4	88.3	84.0	79.7	75.4	71.0	66.7
75°	79.7	75.4	68.9	64.6	62.4	62.4	55.9	51.6	47.3	40.9	36.5
77.5°	55.9	49.5	47.3	43.0	40.9	36.5	32.3	28.0	23.7	21.6	17.3
80°	36.5	32.3	28.0	25.9	23.7	21.6	19.4	15.1	10.8	8.6	6.5
82.5°	21.6	19.4	17.3	15.1	12.9	10.8	8.6	8.6	6.5	4.3	2.2
85°	10.8	8.6	6.5	6.5	4.3	4.3	4.3	2.2	2.2	2.2	2.2
87.5°	4.3	2.2	2.2	2.2	2.2	2.2	2.2	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: P584453

CATALOG NUMBER: HC835D010-HM82555927-81WWBB

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	1433.6	1431.5	1429.3	1427.2	1427.2	1422.9	1422.9	1420.7	1416.4	1414.2	1414.2
5°	1420.7	1414.2	1409.9	1407.8	1405.7	1399.3	1397.1	1392.8	1388.5	1384.2	1382.0
7.5°	1401.4	1390.6	1386.3	1384.2	1377.7	1371.2	1366.9	1360.4	1354.0	1347.5	1345.4
10°	1377.7	1366.9	1356.1	1351.8	1345.4	1341.0	1332.5	1323.9	1317.4	1311.0	1304.5
12.5°	1347.5	1334.7	1323.9	1319.6	1313.1	1304.5	1291.6	1287.3	1276.5	1272.2	1263.7
15°	1313.1	1298.0	1287.3	1280.8	1274.3	1261.5	1252.9	1244.2	1233.5	1229.1	1220.5
17.5°	1270.0	1252.9	1242.1	1235.6	1231.3	1220.5	1207.6	1196.9	1186.1	1181.8	1175.4
20°	1218.4	1207.6	1192.6	1186.1	1181.8	1168.9	1156.0	1151.6	1143.0	1134.4	1128.0
22.5°	1160.3	1149.5	1134.4	1128.0	1125.9	1115.1	1104.3	1097.8	1091.4	1084.9	1078.4
25°	1100.0	1087.1	1074.1	1069.8	1065.5	1057.0	1048.4	1044.1	1037.6	1033.3	1029.0
27.5°	1035.4	1022.5	1011.7	1005.2	1000.9	994.5	990.3	986.0	981.6	977.3	975.2
30°	966.5	953.6	945.0	940.7	936.4	934.2	927.7	925.7	923.5	919.2	921.4
32.5°	897.7	886.9	878.3	871.8	871.8	867.5	865.3	865.3	863.2	863.2	863.2
35°	822.3	815.8	809.4	807.2	805.1	802.9	800.7	802.9	800.7	802.9	805.1
37.5°	753.4	747.0	742.6	740.5	738.3	740.5	738.3	738.3	740.5	744.8	747.0
40°	682.4	678.1	673.8	675.9	673.8	673.8	673.8	680.2	682.4	684.5	686.7
42.5°	615.7	611.3	609.2	609.2	611.3	609.2	613.5	615.7	620.0	626.4	630.7
45°	551.1	548.9	548.9	551.1	548.9	553.2	553.2	557.5	564.0	568.3	572.6
47.5°	490.8	490.8	490.8	493.0	493.0	495.1	499.4	501.6	505.9	510.2	514.4
50°	434.9	437.0	439.2	439.2	439.2	443.5	447.7	449.8	452.0	454.2	460.6
52.5°	385.3	387.4	387.4	389.6	391.7	393.9	396.1	400.4	402.5	406.8	409.0
55°	338.0	338.0	342.3	344.4	344.4	344.4	348.7	348.7	353.1	355.2	359.5
57.5°	292.8	294.9	294.9	297.1	297.1	299.3	301.4	303.6	305.7	307.9	309.9
60°	249.7	249.7	249.7	251.8	254.0	256.1	254.0	258.3	258.3	262.6	264.8
62.5°	208.8	211.0	211.0	211.0	211.0	211.0	211.0	213.1	215.3	217.4	219.6
65°	170.1	170.1	170.1	168.0	170.1	168.0	170.1	172.2	172.2	174.3	176.5
67.5°	131.3	131.3	127.0	127.0	129.1	129.1	129.1	129.1	127.0	131.3	131.3
70°	94.8	92.6	90.4	88.3	88.3	86.1	86.1	84.0	84.0	84.0	84.0
72.5°	62.4	58.1	53.8	51.6	49.5	49.5	45.2	43.0	45.2	45.2	45.2
75°	32.3	28.0	25.9	23.7	21.6	21.6	19.4	19.4	19.4	19.4	19.4
77.5°	12.9	10.8	8.6	8.6	6.5	6.5	6.5	6.5	6.5	6.5	6.5
80°	4.3	4.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
82.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
85°	2.2	0.0	0.0	2.2	0.0	2.2	2.2	2.2	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: P584453

CATALOG NUMBER: HC835D010-HM82555927-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	1412.1	1412.1	1409.9	1412.1	1407.8	1409.9	1407.8	1407.8
5°	1379.9	1375.5	1375.5	1375.5	1373.4	1373.4	1371.2	1371.2
7.5°	1341.0	1338.9	1336.8	1334.7	1332.5	1330.4	1330.4	1330.4
10°	1302.3	1298.0	1298.0	1295.9	1291.6	1289.4	1289.4	1289.4
12.5°	1257.2	1255.0	1252.9	1252.9	1244.2	1246.4	1244.2	1244.2
15°	1214.1	1211.9	1211.9	1205.4	1201.1	1201.1	1201.1	1199.1
17.5°	1168.9	1166.7	1164.6	1160.3	1156.0	1156.0	1153.8	1156.0
20°	1121.6	1119.4	1115.1	1115.1	1112.9	1110.8	1106.5	1108.6
22.5°	1074.1	1069.8	1067.7	1067.7	1065.5	1065.5	1061.3	1061.3
25°	1024.6	1022.5	1020.3	1022.5	1018.2	1018.2	1013.9	1013.9
27.5°	973.0	970.9	970.9	970.9	968.7	970.9	968.7	968.7
30°	921.4	921.4	919.2	919.2	921.4	919.2	921.4	923.5
32.5°	865.3	865.3	867.5	867.5	869.6	869.6	869.6	869.6
35°	807.2	811.5	811.5	813.7	815.8	818.0	818.0	820.2
37.5°	753.4	755.6	757.7	759.9	764.2	764.2	764.2	764.2
40°	695.3	697.5	701.8	699.6	708.3	710.4	708.3	708.3
42.5°	635.1	639.4	641.5	645.8	648.0	652.2	654.3	654.3
45°	579.1	581.3	585.5	589.8	591.9	598.4	598.4	598.4
47.5°	520.9	525.2	527.4	531.7	533.8	540.3	542.5	540.3
50°	464.9	469.3	473.6	473.6	480.0	482.2	486.5	488.7
52.5°	411.2	413.3	417.6	419.8	424.1	428.4	430.6	432.7
55°	359.5	361.7	366.0	366.0	372.5	374.6	378.8	378.8
57.5°	312.1	314.2	318.5	316.4	320.7	325.0	325.0	322.9
60°	266.9	266.9	266.9	271.2	273.4	275.5	277.7	277.7
62.5°	219.6	223.9	226.1	226.1	228.2	230.4	230.4	228.2
65°	176.5	180.8	182.9	182.9	185.1	185.1	185.1	187.2
67.5°	133.5	133.5	133.5	135.6	133.5	133.5	133.5	133.5
70°	84.0	84.0	84.0	84.0	81.8	84.0	84.0	86.1
72.5°	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2
75°	19.4	19.4	19.4	21.6	19.4	19.4	19.4	19.4
77.5°	8.6	6.5	8.6	8.6	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°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
85°	0.0	2.2	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



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— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)