

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: P584344

Luminaire Tested: **HC830D010-HM82555935-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584344
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: HC830D010-HM82555935-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3054.1 lumens
Efficiency: N/A
Efficacy: 109.1 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

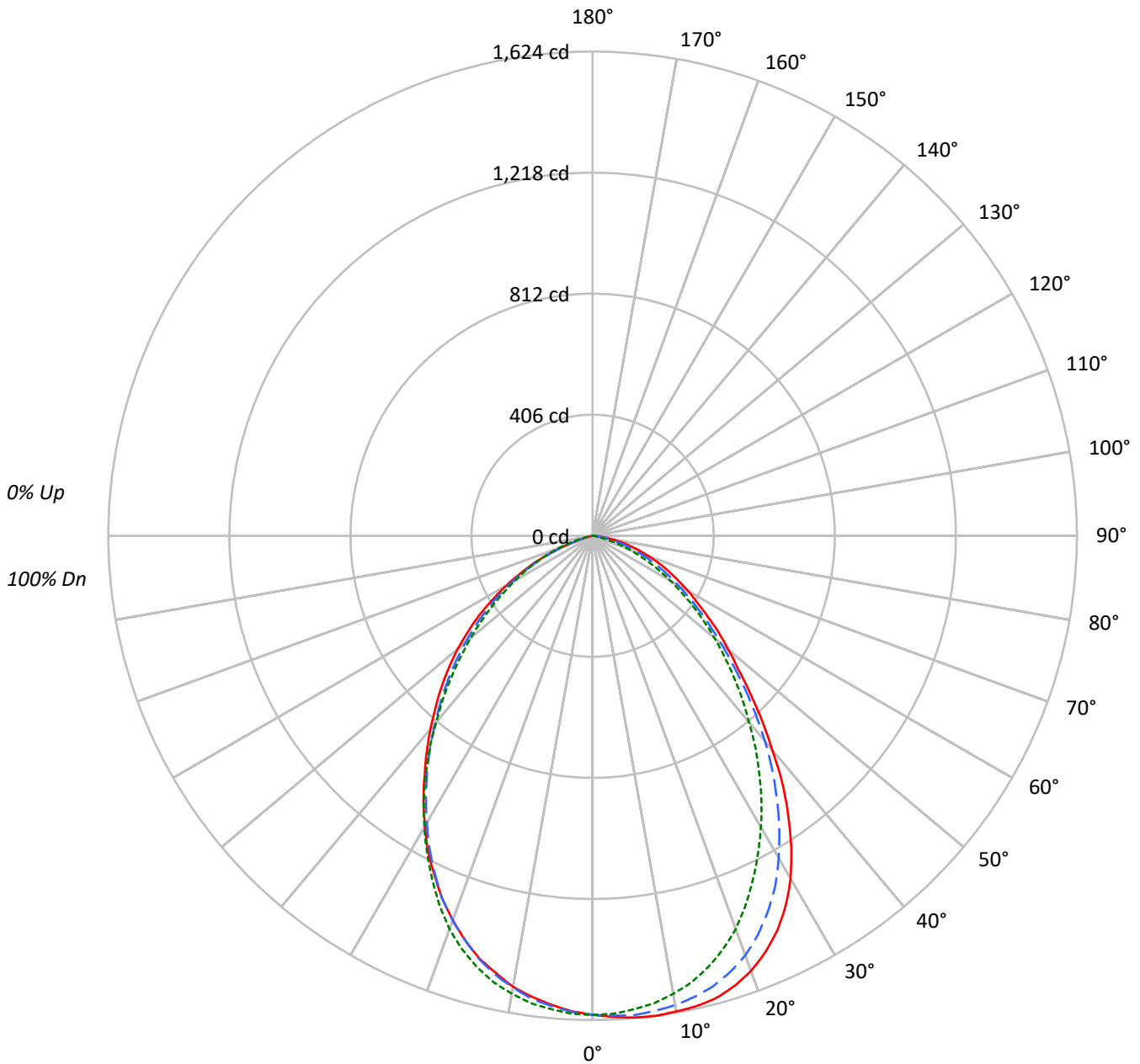
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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			100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88			88
2	103	96	90	85	100	94	89	84	91	86	82	87	84	81	85	82	79	77			77
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67			67
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59			59
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52			52
6	76	64	56	50	74	63	55	50	61	55	50	60	54	49	58	53	49	47			47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42			42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38			38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35			35
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32			32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	49551	49551	49551
5°	50204	49344	48880
10°	50719	48837	48102
15°	51232	47806	46849
20°	50972	46043	44987
25°	49784	43285	42704
30°	47286	40182	40029
35°	43050	36665	36989
40°	37738	32819	34027
45°	32559	29192	31250
50°	28510	25627	28304
55°	25263	22026	24918
60°	22763	18520	20642
65°	20510	14870	15804
70°	17987	10828	8700
75°	15346	5624	2299
80°	11809	1527	373
85°	7571	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.6	5.0
10°-20°	426.2	14.0
20°-30°	605.0	19.8
30°-40°	636.8	20.9
40°-50°	541.7	17.7
50°-60°	391.5	12.8
60°-70°	222.7	7.3
70°-80°	70.1	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°	1182.8	38.7
0°-40°	1819.6	59.6
0°-60°	2752.8	90.1
0°-90°	3054.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3054.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1607	1607	1607	1607	1607	
5°	1622	1613	1594	1583	1579	155
15°	1605	1564	1498	1470	1468	452
25°	1463	1390	1272	1251	1255	670
35°	1144	1077	974	968	983	712
45°	747	719	669	686	717	580
55°	470	436	410	433	464	424
65°	281	242	204	202	217	279
75°	129	99	47	21	19	139
85°	21	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°	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9
2.5°	1615.5	1617.6	1613.4	1613.4	1617.6	1613.4	1615.5	1615.5	1613.4	1613.4	1611.2
5°	1621.9	1619.8	1619.8	1619.8	1621.9	1617.6	1615.5	1617.6	1613.4	1613.4	1613.4
7.5°	1624.2	1624.2	1621.9	1619.8	1619.8	1619.8	1617.6	1615.5	1613.4	1609.1	1606.9
10°	1619.8	1619.8	1621.9	1617.6	1617.6	1613.4	1613.4	1609.1	1609.1	1604.8	1598.4
12.5°	1615.5	1613.4	1613.4	1609.1	1609.1	1604.8	1604.8	1598.4	1596.2	1589.8	1583.4
15°	1604.8	1602.7	1598.4	1596.2	1594.1	1592.0	1587.7	1585.5	1579.1	1570.4	1564.0
17.5°	1583.4	1581.3	1579.1	1574.8	1570.4	1568.3	1566.2	1559.7	1551.2	1544.7	1534.0
20°	1553.3	1551.2	1551.2	1544.7	1542.6	1536.2	1534.0	1525.4	1518.9	1506.1	1497.5
22.5°	1512.5	1514.7	1510.4	1506.1	1501.8	1495.4	1491.1	1482.6	1471.7	1458.9	1448.2
25°	1463.2	1465.3	1461.0	1456.8	1450.3	1446.1	1441.8	1428.8	1418.1	1403.1	1390.3
27.5°	1401.0	1401.0	1401.0	1396.7	1386.0	1383.9	1379.5	1366.6	1351.7	1338.8	1325.9
30°	1328.0	1325.9	1325.9	1319.4	1315.2	1306.6	1300.2	1289.5	1278.7	1263.7	1248.7
32.5°	1240.1	1242.3	1235.8	1231.4	1225.0	1225.0	1216.5	1207.9	1195.1	1180.0	1165.0
35°	1143.6	1145.7	1141.4	1139.3	1128.5	1126.3	1124.2	1113.5	1104.9	1094.2	1077.0
37.5°	1044.9	1042.8	1040.5	1040.5	1034.1	1029.8	1025.5	1019.1	1006.3	997.7	989.0
40°	937.5	937.5	937.5	935.4	933.2	929.0	926.8	922.5	914.0	905.4	899.0
42.5°	841.0	841.0	838.8	836.7	832.4	834.6	830.3	826.0	817.4	811.0	806.7
45°	746.6	746.6	746.6	748.7	744.4	738.0	738.0	733.7	729.5	725.2	718.8
47.5°	663.0	669.4	665.1	663.0	665.1	656.6	656.6	652.2	647.9	643.6	635.0
50°	594.3	594.3	594.3	590.0	587.8	587.8	581.4	577.1	575.0	570.7	562.2
52.5°	532.1	527.8	527.8	525.7	523.5	519.2	519.2	515.0	506.3	502.0	495.6
55°	469.9	469.9	467.8	465.6	463.5	461.3	459.1	452.7	448.4	442.0	435.5
57.5°	414.1	418.4	416.3	412.0	407.6	407.6	403.3	399.0	392.6	386.2	379.8
60°	369.1	366.9	366.9	364.8	360.4	358.2	356.1	349.7	343.3	336.8	330.4
62.5°	321.9	321.9	321.9	317.6	313.2	311.0	308.9	304.6	296.1	289.6	285.4
65°	281.1	278.9	276.8	274.7	272.5	268.2	266.0	261.7	255.3	248.9	242.4
67.5°	240.3	238.2	238.2	236.0	229.6	227.5	227.5	221.0	214.5	208.1	201.7
70°	199.5	199.5	199.5	195.2	193.1	191.0	188.8	184.5	178.1	171.7	165.2
72.5°	165.2	163.0	163.0	160.9	154.5	152.3	150.2	145.9	139.5	135.2	130.9
75°	128.8	128.8	126.6	124.5	122.3	120.1	117.9	113.7	107.2	100.8	98.7
77.5°	98.7	96.5	96.5	94.4	90.1	88.0	88.0	83.7	77.3	73.0	68.6
80°	66.5	68.6	66.5	64.3	62.2	60.0	57.9	55.8	51.5	47.2	42.9
82.5°	40.8	42.9	40.8	40.8	38.6	36.5	36.5	32.2	30.1	27.9	25.8
85°	21.4	21.4	21.4	21.4	19.3	19.3	19.3	17.1	15.0	12.8	12.8
87.5°	6.4	8.6	6.4	6.4	6.4	6.4	6.4	6.4	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: P584344

CATALOG NUMBER: HC830D010-HM82555935-81RWWC

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9
2.5°	1613.4	1611.2	1609.1	1609.1	1609.1	1609.1	1609.1	1606.9	1604.8	1604.8	1604.8
5°	1609.1	1609.1	1609.1	1606.9	1604.8	1604.8	1600.5	1598.4	1596.2	1594.1	1592.0
7.5°	1604.8	1600.5	1598.4	1596.2	1594.1	1594.1	1589.8	1585.5	1585.5	1581.3	1577.0
10°	1592.0	1589.8	1585.5	1581.3	1579.1	1577.0	1572.6	1566.2	1564.0	1559.7	1555.4
12.5°	1577.0	1572.6	1568.3	1559.7	1557.6	1555.4	1546.9	1540.5	1536.2	1534.0	1523.2
15°	1557.6	1549.0	1542.6	1531.9	1529.8	1525.4	1518.9	1512.5	1504.0	1497.5	1493.3
17.5°	1523.2	1514.7	1504.0	1493.3	1489.0	1489.0	1478.3	1469.6	1458.9	1454.6	1446.1
20°	1482.6	1471.7	1463.2	1450.3	1443.9	1437.5	1431.1	1418.1	1409.6	1403.1	1392.4
22.5°	1435.4	1420.3	1409.6	1396.7	1386.0	1379.5	1368.8	1358.1	1347.4	1341.0	1332.3
25°	1375.2	1362.4	1345.2	1332.3	1325.9	1317.3	1304.5	1293.8	1282.9	1272.2	1267.9
27.5°	1308.7	1291.6	1276.5	1261.5	1255.1	1248.7	1233.6	1220.7	1212.2	1201.5	1197.2
30°	1235.8	1218.6	1201.5	1188.6	1182.1	1171.4	1162.8	1147.9	1137.0	1128.5	1117.8
32.5°	1152.1	1139.3	1124.2	1104.9	1100.7	1092.1	1079.1	1072.7	1059.9	1053.5	1044.9
35°	1062.0	1053.5	1038.4	1023.4	1017.0	1012.7	1002.0	989.0	980.4	974.0	969.7
37.5°	976.2	965.5	950.5	939.7	935.4	929.0	916.1	909.7	901.1	896.9	888.2
40°	883.9	873.2	862.5	856.1	849.7	845.3	836.7	830.3	821.7	815.3	813.2
42.5°	793.8	787.4	778.8	770.2	768.1	761.7	757.4	750.9	744.4	742.3	735.9
45°	712.3	705.9	697.2	688.7	686.5	682.2	680.1	673.7	669.4	669.4	669.4
47.5°	630.8	624.3	615.8	611.5	613.6	605.0	605.0	602.8	598.5	598.5	600.7
50°	557.9	549.2	547.1	542.8	538.5	534.2	536.4	529.9	529.9	534.2	532.1
52.5°	489.2	480.6	478.5	474.2	472.0	472.0	469.9	469.9	467.8	469.9	469.9
55°	427.0	420.5	416.3	412.0	409.7	409.7	409.7	407.6	405.4	409.7	412.0
57.5°	371.2	369.1	364.8	358.2	356.1	354.0	351.8	351.8	351.8	351.8	354.0
60°	321.9	317.6	313.2	306.8	306.8	304.6	302.5	300.3	300.3	300.3	300.3
62.5°	278.9	272.5	266.0	261.7	259.6	257.4	255.3	251.0	251.0	251.0	251.0
65°	236.0	229.6	225.3	221.0	216.6	216.6	212.4	210.2	205.9	203.8	199.5
67.5°	195.2	191.0	186.7	180.3	178.1	176.0	171.7	169.4	163.0	160.9	158.7
70°	158.7	152.3	148.0	143.8	141.6	137.3	133.0	128.8	124.5	120.1	115.8
72.5°	124.5	117.9	113.7	109.4	105.1	105.1	98.7	94.4	88.0	83.7	77.3
75°	92.3	85.8	81.6	75.1	73.0	70.7	64.3	60.0	53.6	47.2	42.9
77.5°	62.2	57.9	53.6	47.2	42.9	42.9	36.5	32.2	27.9	21.4	19.3
80°	38.6	34.4	30.1	25.8	25.8	21.4	19.3	15.0	10.7	8.6	6.4
82.5°	21.4	19.3	17.1	12.8	12.8	10.7	8.6	6.4	4.3	2.1	2.1
85°	10.7	8.6	6.4	6.4	4.3	4.3	4.3	2.1	2.1	0.0	0.0
87.5°	4.3	2.1	2.1	2.1	2.1	2.1	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: P584344

CATALOG NUMBER: HC830D010-HM82555935-81RWWC

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9
2.5°	1602.7	1602.7	1600.5	1600.5	1600.5	1598.4	1600.5	1598.4	1598.4	1598.4	1600.5
5°	1594.1	1589.8	1589.8	1587.7	1587.7	1585.5	1587.7	1585.5	1583.4	1581.3	1583.4
7.5°	1577.0	1572.6	1570.4	1568.3	1568.3	1568.3	1566.2	1564.0	1566.2	1559.7	1564.0
10°	1553.3	1551.2	1546.9	1544.7	1542.6	1544.7	1542.6	1538.3	1538.3	1538.3	1536.2
12.5°	1523.2	1518.9	1516.8	1514.7	1510.4	1510.4	1512.5	1508.2	1508.2	1504.0	1504.0
15°	1486.8	1482.6	1478.3	1478.3	1473.9	1473.9	1471.7	1471.7	1469.6	1467.5	1467.5
17.5°	1441.8	1435.4	1431.1	1433.2	1431.1	1428.8	1428.8	1424.5	1422.4	1424.5	1424.5
20°	1388.2	1383.9	1379.5	1381.7	1377.3	1375.2	1377.3	1370.9	1373.1	1373.1	1373.1
22.5°	1328.0	1325.9	1319.4	1319.4	1315.2	1313.0	1315.2	1315.2	1317.3	1315.2	1315.2
25°	1261.5	1257.2	1253.0	1253.0	1250.8	1248.7	1250.8	1253.0	1250.8	1253.0	1253.0
27.5°	1190.8	1184.2	1184.2	1180.0	1180.0	1182.1	1180.0	1182.1	1184.2	1184.2	1188.6
30°	1113.5	1111.4	1109.2	1107.1	1107.1	1109.2	1109.2	1109.2	1111.4	1115.6	1115.6
32.5°	1040.5	1036.2	1031.9	1031.9	1036.2	1034.1	1036.2	1036.2	1040.5	1040.5	1044.9
35°	961.2	961.2	956.9	959.0	959.0	959.0	959.0	963.3	967.6	969.7	974.0
37.5°	888.2	881.8	883.9	883.9	886.0	883.9	890.3	890.3	894.6	894.6	899.0
40°	808.9	808.9	811.0	808.9	811.0	811.0	815.3	819.6	821.7	826.0	828.1
42.5°	733.7	738.0	733.7	735.9	738.0	740.2	742.3	744.4	753.1	757.4	763.8
45°	665.1	667.3	669.4	671.5	669.4	673.7	675.8	680.1	686.5	688.7	690.8
47.5°	598.5	600.7	602.8	605.0	605.0	609.4	611.5	615.8	620.1	622.2	624.3
50°	534.2	538.5	540.6	540.6	542.8	547.1	551.3	551.3	555.6	562.2	564.3
52.5°	476.3	476.3	480.6	482.7	484.9	484.9	491.3	493.4	495.6	499.9	504.1
55°	412.0	418.4	420.5	420.5	424.8	429.1	431.3	433.4	433.4	442.0	442.0
57.5°	356.1	358.2	362.5	362.5	362.5	369.1	369.1	373.3	375.5	377.6	381.9
60°	300.3	304.6	304.6	306.8	304.6	308.9	311.0	315.4	317.6	319.7	321.9
62.5°	248.9	248.9	251.0	251.0	251.0	251.0	255.3	255.3	259.6	261.7	263.8
65°	199.5	199.5	199.5	199.5	199.5	199.5	199.5	199.5	201.7	201.7	205.9
67.5°	154.5	152.3	148.0	150.2	148.0	148.0	145.9	145.9	148.0	148.0	152.3
70°	111.5	109.4	105.1	105.1	103.0	100.8	98.7	96.5	94.4	94.4	94.4
72.5°	73.0	68.6	62.2	60.0	60.0	55.8	51.5	49.3	49.3	49.3	49.3
75°	36.5	32.2	27.9	25.8	25.8	21.4	23.5	21.4	21.4	21.4	21.4
77.5°	15.0	10.7	8.6	8.6	8.6	6.4	6.4	6.4	6.4	6.4	6.4
80°	4.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
82.5°	2.1	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: P584344

CATALOG NUMBER: HC830D010-HM82555935-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9	1606.9
2.5°	1598.4	1598.4	1594.1	1596.2	1596.2	1596.2	1596.2	1596.2
5°	1579.1	1581.3	1579.1	1581.3	1581.3	1579.1	1579.1	1579.1
7.5°	1559.7	1561.9	1559.7	1561.9	1561.9	1561.9	1559.7	1559.7
10°	1536.2	1536.2	1536.2	1536.2	1536.2	1534.0	1536.2	1536.2
12.5°	1504.0	1504.0	1504.0	1506.1	1506.1	1504.0	1504.0	1501.8
15°	1469.6	1465.3	1467.5	1469.6	1467.5	1467.5	1467.5	1467.5
17.5°	1422.4	1424.5	1422.4	1422.4	1422.4	1422.4	1424.5	1422.4
20°	1373.1	1373.1	1375.2	1373.1	1373.1	1373.1	1373.1	1370.9
22.5°	1317.3	1315.2	1315.2	1317.3	1317.3	1315.2	1317.3	1317.3
25°	1255.1	1257.2	1255.1	1255.1	1257.2	1257.2	1257.2	1255.1
27.5°	1188.6	1190.8	1192.9	1190.8	1190.8	1190.8	1192.9	1195.1
30°	1119.9	1124.2	1119.9	1119.9	1124.2	1122.1	1124.2	1124.2
32.5°	1047.0	1053.5	1049.2	1053.5	1053.5	1055.6	1053.5	1055.6
35°	974.0	980.4	980.4	980.4	982.6	984.7	984.7	982.6
37.5°	905.4	907.6	907.6	911.8	914.0	916.1	916.1	914.0
40°	834.6	838.8	841.0	841.0	841.0	845.3	849.7	845.3
42.5°	766.0	768.1	770.2	770.2	774.5	776.7	778.8	778.8
45°	699.4	703.8	705.9	708.0	710.2	714.5	712.3	716.6
47.5°	630.8	637.2	639.3	641.5	645.7	647.9	650.0	652.2
50°	568.6	572.9	572.9	577.1	583.6	583.6	587.8	590.0
52.5°	506.3	508.4	510.7	512.8	517.1	521.4	521.4	525.7
55°	446.2	448.4	448.4	450.5	452.7	461.3	463.5	463.5
57.5°	384.0	384.0	388.3	390.5	392.6	396.9	396.9	396.9
60°	324.0	326.1	326.1	328.3	330.4	334.7	336.8	334.7
62.5°	263.8	266.0	266.0	268.2	272.5	274.7	272.5	272.5
65°	208.1	210.2	210.2	212.4	216.6	216.6	214.5	216.6
67.5°	152.3	152.3	152.3	152.3	152.3	152.3	152.3	152.3
70°	96.5	94.4	92.3	94.4	94.4	94.4	92.3	96.5
72.5°	47.2	49.3	49.3	49.3	49.3	49.3	49.3	47.2
75°	21.4	21.4	19.3	19.3	19.3	21.4	21.4	19.3
77.5°	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
80°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
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)