

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: P584336

Luminaire Tested: **HC830D010-HM82555930-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584336
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: HC830D010-HM82555930-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3020.7 lumens
Efficiency: N/A
Efficacy: 107.9 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

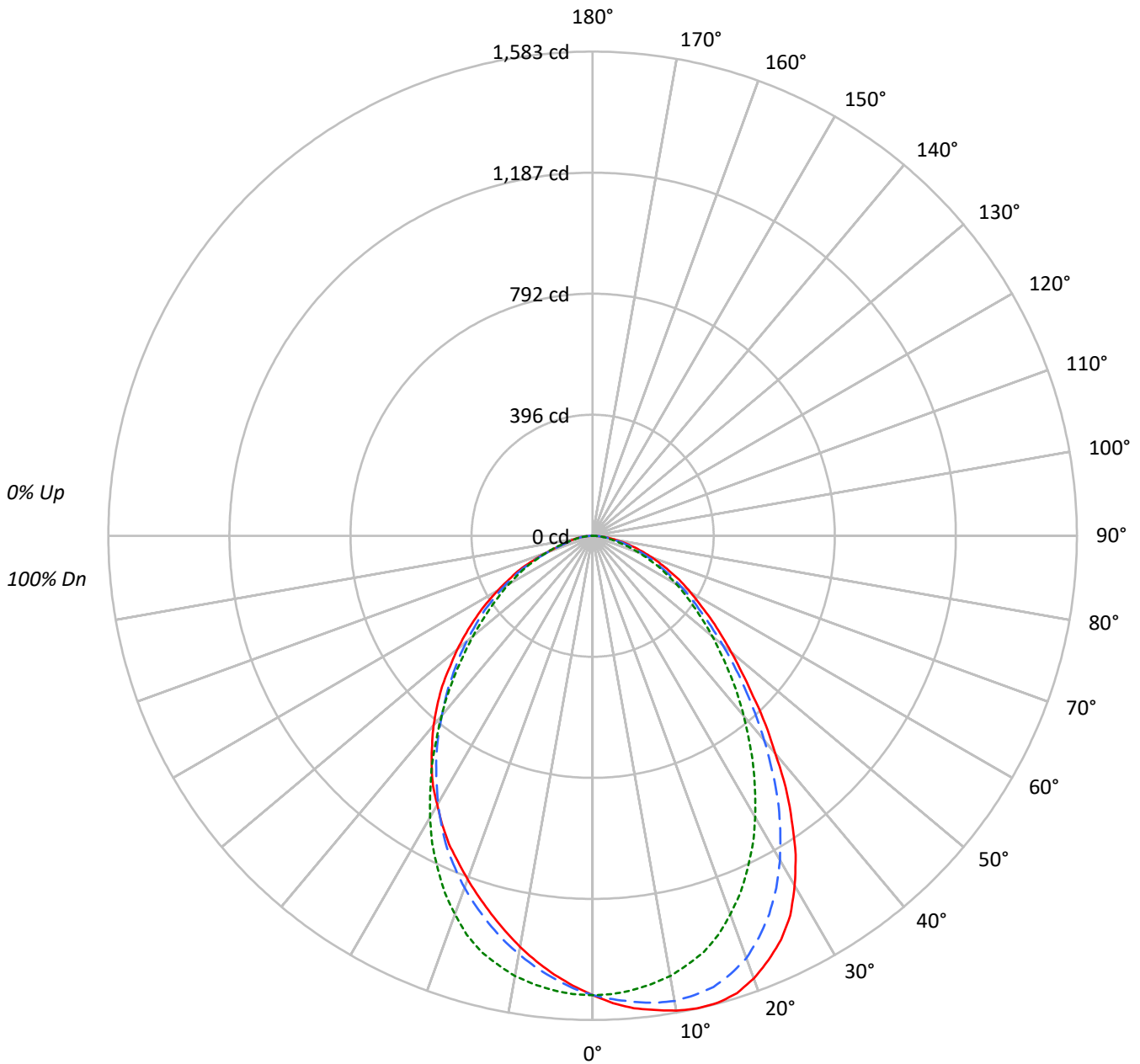
Input Watts (W): 28
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	46313	46313	46313
5°	48007	46159	44574
10°	49367	45759	42750
15°	50466	44949	40866
20°	50545	43195	39204
25°	49577	40795	37818
30°	47019	37829	36159
35°	42722	34452	34531
40°	37356	30915	32545
45°	32375	27539	30326
50°	28347	24457	27637
55°	25230	21677	24999
60°	22763	19476	21968
65°	20547	17125	19146
70°	18456	14425	14236
75°	16263	11438	10687
80°	13638	9483	10211
85°	10543	8279	9057



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.7	4.7
10°-20°	399.1	13.2
20°-30°	570.3	18.9
30°-40°	606.0	20.1
40°-50°	521.8	17.3
50°-60°	390.1	12.9
60°-70°	248.8	8.2
70°-80°	113.2	3.7
80°-90°	29.7	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°	1111.1	36.8
0°-40°	1717.1	56.8
0°-60°	2628.9	87.0
0°-90°	3020.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3020.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1502	1502	1502	1502	1502	
5°	1551	1530	1491	1453	1440	149
15°	1581	1528	1408	1312	1280	445
25°	1457	1365	1199	1126	1112	667
35°	1135	1056	915	892	917	707
45°	742	702	632	649	695	577
55°	469	431	403	437	465	422
65°	282	250	235	245	262	281
75°	136	117	96	88	90	145
85°	30	26	23	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°	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9
2.5°	1529.6	1525.4	1527.5	1525.4	1527.5	1527.5	1523.2	1523.2	1523.2	1523.2	1516.8
5°	1550.9	1548.8	1548.8	1546.7	1544.5	1546.7	1544.5	1542.5	1538.2	1536.1	1529.6
7.5°	1563.8	1563.8	1563.8	1563.8	1561.6	1559.5	1557.4	1553.1	1548.8	1544.5	1540.3
10°	1576.6	1578.8	1576.6	1574.5	1572.3	1568.1	1565.9	1561.6	1555.2	1548.8	1544.5
12.5°	1582.9	1582.9	1580.8	1580.8	1576.6	1574.5	1568.1	1561.6	1555.2	1548.8	1538.2
15°	1580.8	1580.8	1578.8	1576.6	1570.2	1568.1	1563.8	1557.4	1546.7	1538.2	1527.5
17.5°	1568.1	1565.9	1561.6	1561.6	1553.1	1550.9	1546.7	1538.2	1527.5	1514.7	1501.9
20°	1540.3	1540.3	1538.2	1536.1	1527.5	1521.1	1516.8	1506.2	1497.7	1482.7	1469.8
22.5°	1501.9	1506.2	1501.9	1497.7	1487.0	1484.8	1478.4	1465.7	1452.8	1435.7	1420.9
25°	1457.1	1455.0	1452.8	1448.6	1440.0	1435.7	1427.3	1414.4	1401.6	1382.5	1365.3
27.5°	1399.5	1391.0	1391.0	1382.5	1376.0	1369.6	1365.3	1352.6	1335.5	1320.5	1299.2
30°	1320.5	1322.6	1312.1	1309.9	1299.2	1294.9	1286.4	1273.7	1258.7	1241.7	1224.6
32.5°	1235.3	1228.8	1228.8	1220.3	1211.7	1205.4	1203.3	1188.3	1175.4	1158.4	1141.3
35°	1134.9	1134.9	1128.6	1126.5	1117.9	1113.6	1107.2	1098.6	1083.8	1068.8	1056.1
37.5°	1036.8	1032.5	1030.4	1026.1	1019.8	1013.4	1013.4	998.4	996.3	979.3	962.1
40°	928.0	932.3	928.0	921.6	919.5	915.2	913.0	904.6	898.2	883.2	872.6
42.5°	836.3	832.1	832.1	829.9	821.4	821.4	817.1	812.8	802.1	797.9	785.1
45°	742.4	746.7	740.3	742.4	733.9	733.9	733.9	725.3	716.8	710.4	701.9
47.5°	661.3	663.5	663.5	657.0	654.9	654.9	650.7	646.5	640.0	631.5	625.1
50°	590.9	593.1	588.8	586.7	582.4	580.2	580.2	571.8	567.5	558.9	554.7
52.5°	527.0	527.0	524.8	524.8	518.4	518.4	514.1	507.7	503.4	499.3	488.6
55°	469.3	469.3	467.2	465.0	465.0	458.7	456.6	450.2	445.9	437.3	430.9
57.5°	413.9	416.0	413.9	411.8	409.6	407.5	403.2	396.8	392.5	386.2	381.9
60°	369.1	369.1	366.9	364.8	360.5	358.4	356.2	352.1	345.6	341.4	334.9
62.5°	326.4	324.2	322.1	320.0	315.8	315.8	311.5	307.2	300.8	296.5	292.3
65°	281.6	281.6	279.4	279.4	277.4	273.1	271.0	268.8	260.3	258.1	249.6
67.5°	241.1	243.2	239.0	239.0	234.7	234.7	232.6	226.1	224.0	219.7	215.4
70°	204.7	204.7	204.7	202.7	198.4	196.3	194.2	189.9	187.7	183.5	179.2
72.5°	168.5	168.5	166.5	166.5	164.3	162.2	160.0	155.8	155.8	151.5	147.2
75°	136.5	136.5	134.4	132.2	130.2	130.2	128.1	125.9	121.6	119.5	117.4
77.5°	104.5	104.5	104.5	102.4	100.2	100.2	100.2	96.0	91.8	91.8	89.7
80°	76.8	76.8	74.7	74.7	72.5	72.5	72.5	70.4	68.2	66.1	64.0
82.5°	51.2	51.2	51.2	51.2	49.1	49.1	49.1	47.0	44.8	44.8	44.8
85°	29.8	29.8	29.8	29.8	27.7	27.7	27.7	27.7	27.7	25.6	25.6
87.5°	12.8	10.7	12.8	10.7	12.8	10.7	12.8	10.7	10.7	10.7	10.7
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°	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9
2.5°	1518.9	1516.8	1514.7	1512.5	1512.5	1510.4	1506.2	1504.1	1501.9	1499.8	1499.8
5°	1527.5	1525.4	1521.1	1516.8	1514.7	1510.4	1506.2	1501.9	1497.7	1491.2	1489.1
7.5°	1533.9	1527.5	1523.2	1514.7	1512.5	1508.2	1501.9	1495.5	1487.0	1478.4	1472.0
10°	1533.9	1525.4	1518.9	1508.2	1504.1	1499.8	1491.2	1480.5	1469.8	1461.4	1450.7
12.5°	1529.6	1518.9	1508.2	1497.7	1491.2	1484.8	1472.0	1461.4	1448.6	1435.7	1427.3
15°	1514.7	1501.9	1489.1	1476.3	1469.8	1461.4	1448.6	1433.6	1420.9	1408.0	1393.2
17.5°	1487.0	1474.1	1459.3	1444.3	1435.7	1429.4	1410.2	1399.5	1380.3	1367.5	1354.7
20°	1450.7	1435.7	1416.6	1401.6	1391.0	1384.6	1369.6	1350.5	1335.5	1316.3	1303.5
22.5°	1403.7	1384.6	1365.3	1350.5	1339.8	1331.2	1312.1	1292.8	1280.1	1263.0	1248.0
25°	1348.3	1329.1	1309.9	1288.5	1277.9	1269.4	1252.3	1235.3	1218.1	1199.0	1186.1
27.5°	1282.2	1260.8	1243.8	1224.6	1213.9	1201.1	1181.9	1164.9	1147.7	1134.9	1117.9
30°	1209.6	1186.1	1169.1	1149.9	1139.2	1128.6	1109.3	1092.3	1077.4	1062.4	1053.9
32.5°	1122.2	1105.1	1088.1	1068.8	1060.2	1053.9	1034.7	1017.7	1000.5	987.7	981.4
35°	1038.9	1019.8	1004.8	987.7	977.1	970.7	953.6	938.7	930.2	915.2	906.7
37.5°	951.4	936.6	919.5	902.5	896.0	889.6	876.8	861.9	849.1	838.4	834.2
40°	859.8	846.9	832.1	821.4	814.9	808.5	797.9	787.2	778.7	768.0	763.7
42.5°	772.3	763.7	751.0	738.1	731.7	729.6	716.8	708.3	704.0	699.7	695.4
45°	693.3	680.6	672.0	663.5	657.0	652.8	646.5	640.0	635.8	631.5	627.2
47.5°	616.5	605.9	597.4	590.9	584.5	582.4	578.1	571.8	567.5	567.5	567.5
50°	546.1	537.7	529.1	524.8	522.7	518.4	514.1	512.0	509.8	509.8	509.8
52.5°	484.3	475.7	469.3	465.0	465.0	460.9	456.6	454.4	454.4	454.4	454.4
55°	426.7	420.3	416.0	411.8	407.5	405.3	405.3	405.3	403.2	403.2	405.3
57.5°	375.5	371.2	364.8	360.5	358.4	358.4	356.2	354.1	356.2	358.4	360.5
60°	328.5	324.2	322.1	315.8	315.8	315.8	313.7	313.7	313.7	315.8	317.8
62.5°	285.8	283.7	279.4	277.4	275.3	275.3	273.1	273.1	273.1	273.1	275.3
65°	247.4	243.2	239.0	239.0	239.0	236.8	236.8	232.6	234.7	234.7	232.6
67.5°	211.2	206.9	204.7	202.7	200.6	200.6	198.4	196.3	194.2	194.2	194.2
70°	177.0	172.8	172.8	168.5	168.5	166.5	164.3	164.3	162.2	160.0	157.9
72.5°	142.9	140.8	138.6	136.5	136.5	136.5	134.4	132.2	130.2	128.1	123.8
75°	113.1	113.1	108.8	106.7	106.7	104.5	102.4	100.2	98.1	96.0	93.8
77.5°	87.5	85.4	81.1	78.9	78.9	78.9	76.8	74.7	72.5	70.4	68.2
80°	64.0	61.8	59.7	57.5	57.5	57.5	55.5	55.5	53.4	53.4	53.4
82.5°	42.7	42.7	40.5	40.5	40.5	40.5	38.4	38.4	38.4	38.4	38.4
85°	25.6	25.6	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4
87.5°	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
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°	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9
2.5°	1495.5	1495.5	1491.2	1489.1	1487.0	1489.1	1484.8	1482.7	1480.5	1480.5	1478.4
5°	1482.7	1480.5	1472.0	1469.8	1467.8	1465.7	1461.4	1457.1	1452.8	1450.7	1448.6
7.5°	1465.7	1459.3	1450.7	1448.6	1446.4	1440.0	1433.6	1429.4	1423.0	1420.9	1416.6
10°	1442.1	1433.6	1427.3	1420.9	1416.6	1410.2	1403.7	1397.3	1388.9	1386.7	1380.3
12.5°	1414.4	1403.7	1391.0	1388.9	1382.5	1373.9	1365.3	1358.9	1352.6	1348.3	1341.9
15°	1380.3	1369.6	1356.9	1350.5	1344.0	1337.6	1326.9	1318.5	1312.1	1305.6	1299.2
17.5°	1339.8	1326.9	1316.3	1309.9	1305.6	1294.9	1286.4	1275.8	1269.4	1263.0	1256.5
20°	1290.7	1280.1	1265.1	1258.7	1256.5	1248.0	1237.4	1233.1	1224.6	1218.1	1213.9
22.5°	1235.3	1224.6	1211.7	1207.5	1199.0	1194.7	1184.0	1179.7	1175.4	1169.1	1167.0
25°	1173.3	1162.7	1152.0	1149.9	1143.5	1139.2	1132.9	1126.5	1126.5	1120.0	1120.0
27.5°	1109.3	1098.6	1090.2	1085.9	1083.8	1079.5	1073.1	1070.9	1068.8	1066.7	1066.7
30°	1041.1	1028.2	1024.0	1021.9	1019.8	1015.5	1013.4	1009.1	1011.2	1013.4	1011.2
32.5°	968.6	964.3	955.7	951.4	953.6	951.4	947.3	951.4	949.3	953.6	955.7
35°	898.2	893.9	889.6	889.6	885.3	885.3	885.3	887.5	891.8	893.9	898.2
37.5°	829.9	823.5	821.4	819.2	821.4	821.4	821.4	825.6	829.9	834.2	840.5
40°	757.4	753.1	753.1	753.1	753.1	759.5	757.4	761.7	765.8	772.3	778.7
42.5°	689.0	689.0	691.2	691.2	691.2	691.2	695.4	701.9	708.3	714.7	721.1
45°	625.1	625.1	625.1	629.3	629.3	631.5	640.0	644.3	648.6	654.9	661.3
47.5°	565.4	565.4	567.5	569.6	571.8	576.1	580.2	586.7	593.1	597.4	603.8
50°	509.8	512.0	516.3	520.5	520.5	522.7	529.1	533.4	537.7	544.0	546.1
52.5°	456.6	460.9	465.0	467.2	469.3	473.6	475.7	482.1	484.3	490.7	492.8
55°	407.5	409.6	416.0	418.2	418.2	422.5	426.7	430.9	437.3	437.3	441.6
57.5°	362.6	364.8	369.1	371.2	369.1	375.5	377.6	381.9	384.0	388.3	390.5
60°	317.8	322.1	324.2	324.2	326.4	328.5	332.8	332.8	337.1	341.4	341.4
62.5°	275.3	277.4	279.4	281.6	283.7	281.6	288.0	288.0	292.3	294.4	298.7
65°	234.7	236.8	236.8	239.0	239.0	241.1	241.1	243.2	245.3	249.6	251.7
67.5°	194.2	194.2	194.2	196.3	194.2	196.3	196.3	198.4	198.4	202.7	204.7
70°	157.9	155.8	153.6	153.6	153.6	153.6	151.5	153.6	153.6	155.8	155.8
72.5°	121.6	119.5	117.4	115.2	115.2	113.1	110.9	113.1	113.1	115.2	115.2
75°	91.8	87.5	87.5	87.5	85.4	85.4	85.4	87.5	87.5	87.5	89.7
77.5°	68.2	68.2	66.1	66.1	66.1	68.2	68.2	70.4	70.4	70.4	70.4
80°	51.2	53.4	53.4	53.4	53.4	55.5	55.5	55.5	55.5	57.5	57.5
82.5°	38.4	38.4	38.4	38.4	40.5	40.5	40.5	40.5	40.5	40.5	40.5
85°	23.4	25.6	25.6	23.4	25.6	25.6	25.6	25.6	25.6	25.6	25.6
87.5°	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
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: P584336

CATALOG NUMBER: HC830D010-HM82555930-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9	1501.9
2.5°	1476.3	1476.3	1476.3	1476.3	1474.1	1474.1	1474.1	1472.0
5°	1444.3	1444.3	1444.3	1440.0	1442.1	1442.1	1437.9	1440.0
7.5°	1412.3	1410.2	1408.0	1408.0	1405.9	1403.7	1401.6	1403.7
10°	1376.0	1369.6	1369.6	1367.5	1367.5	1363.2	1363.2	1365.3
12.5°	1335.5	1331.2	1331.2	1329.1	1326.9	1324.8	1322.6	1322.6
15°	1294.9	1290.7	1288.5	1286.4	1284.2	1280.1	1282.2	1280.1
17.5°	1254.4	1248.0	1248.0	1246.0	1243.8	1239.5	1239.5	1237.4
20°	1207.5	1205.4	1201.1	1203.3	1201.1	1196.8	1194.7	1194.7
22.5°	1160.6	1160.6	1158.4	1158.4	1156.3	1154.2	1152.0	1152.0
25°	1115.8	1113.6	1115.8	1115.8	1109.3	1109.3	1109.3	1111.5
27.5°	1064.5	1066.7	1064.5	1064.5	1064.5	1064.5	1066.7	1064.5
30°	1013.4	1013.4	1013.4	1015.5	1019.8	1017.7	1017.7	1015.5
32.5°	957.9	960.0	960.0	962.1	964.3	968.6	968.6	970.7
35°	902.5	906.7	908.9	906.7	913.0	913.0	917.3	917.3
37.5°	844.8	846.9	851.2	853.3	857.6	859.8	861.9	861.9
40°	783.0	791.5	793.7	795.8	802.1	802.1	804.2	808.5
42.5°	725.3	733.9	736.0	738.1	742.4	748.8	746.7	751.0
45°	669.9	676.3	678.4	680.6	687.0	689.0	689.0	695.4
47.5°	610.2	614.4	616.5	620.8	625.1	629.3	633.6	631.5
50°	550.4	556.8	561.1	563.2	569.6	571.8	573.9	576.1
52.5°	497.1	501.4	503.4	505.6	512.0	514.1	516.3	520.5
55°	445.9	448.0	452.3	450.2	456.6	458.7	460.9	465.0
57.5°	394.6	396.8	398.9	398.9	403.2	407.5	409.6	411.8
60°	345.6	349.9	352.1	352.1	352.1	356.2	356.2	356.2
62.5°	300.8	300.8	303.0	303.0	307.2	307.2	307.2	307.2
65°	253.9	256.0	258.1	258.1	262.4	260.3	264.6	262.4
67.5°	204.7	204.7	209.0	209.0	206.9	209.0	209.0	209.0
70°	155.8	155.8	157.9	157.9	157.9	157.9	157.9	157.9
72.5°	115.2	115.2	115.2	117.4	115.2	115.2	117.4	115.2
75°	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7
77.5°	70.4	70.4	72.5	72.5	72.5	72.5	72.5	72.5
80°	57.5	57.5	57.5	57.5	59.7	57.5	57.5	57.5
82.5°	42.7	40.5	42.7	40.5	42.7	42.7	42.7	42.7
85°	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
87.5°	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
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)