

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: P593683

Luminaire Tested: **HC830D010-HM82555950-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P593683
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: HC830D010-HM82555950-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2953.9 lumens
Efficiency: N/A
Efficacy: 105.5 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

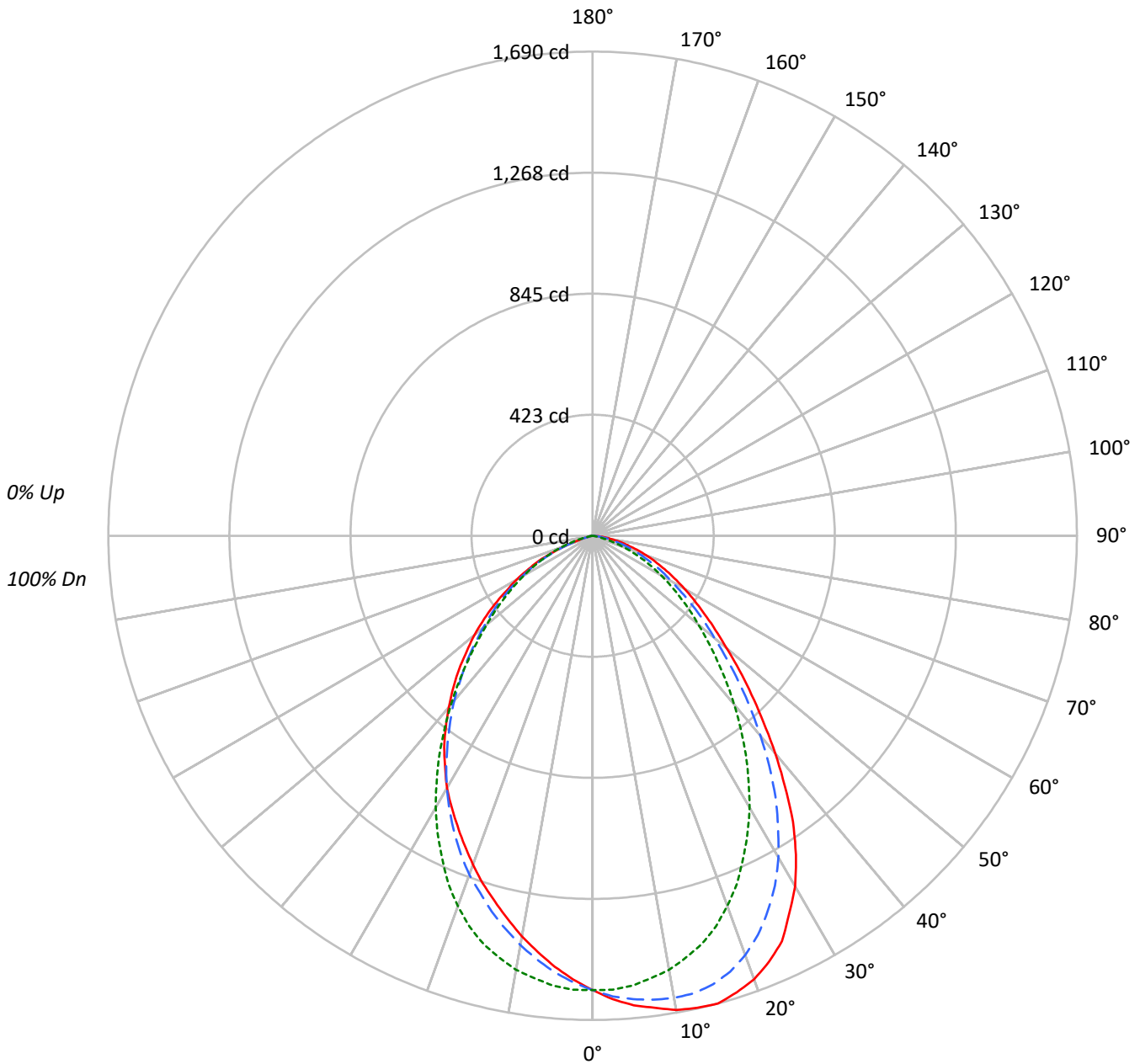
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P593683

CATALOG NUMBER: HC830D010-HM82555950-81WWBB

Luminous Intensity Polar Plot





TEST NUMBER: P593683

CATALOG NUMBER: HC830D010-HM82555950-81WWBB

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	48900	48900	48900
5°	50923	48796	46741
10°	52626	48170	44460
15°	53958	47069	42153
20°	54063	45115	40058
25°	53149	42261	37988
30°	50305	38996	36212
35°	45866	35069	34000
40°	39884	30915	31394
45°	34216	26776	28734
50°	29225	23085	25814
55°	25612	19881	22429
60°	22807	16960	18859
65°	20240	13834	15045
70°	17960	10260	8547
75°	14976	5373	2538
80°	11774	1687	426
85°	8385	849	0



TEST NUMBER: P593683

CATALOG NUMBER: HC830D010-HM82555950-81WWBB

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.4	5.1
10°-20°	418.8	14.2
20°-30°	592.8	20.1
30°-40°	620.2	21.0
40°-50°	517.3	17.5
50°-60°	366.8	12.4
60°-70°	211.3	7.2
70°-80°	68.0	2.3
80°-90°	9.4	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°	1161.0	39.3
0°-40°	1781.2	60.3
0°-60°	2665.3	90.2
0°-90°	2953.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2953.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1586	1586	1586	1586	1586	
5°	1645	1624	1576	1529	1510	158
15°	1690	1621	1474	1358	1320	475
25°	1562	1446	1242	1142	1116	713
35°	1218	1112	932	882	903	755
45°	785	721	614	621	659	608
55°	476	427	370	389	417	430
65°	277	232	190	190	206	277
75°	126	92	45	21	21	136
85°	24	12	2	0	0	30
90°	0	0	0	0	0	



TEST NUMBER: P593683

CATALOG NUMBER: HC830D010-HM82555950-81WWBB

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8
2.5°	1619.1	1616.7	1614.3	1616.7	1614.3	1616.7	1614.3	1614.3	1611.9	1609.5	1609.5
5°	1645.1	1642.7	1642.7	1642.7	1640.3	1638.0	1638.0	1635.6	1630.8	1628.5	1623.7
7.5°	1661.6	1664.0	1664.0	1664.0	1659.4	1659.4	1654.6	1649.9	1645.1	1640.3	1633.2
10°	1680.7	1680.7	1678.3	1675.9	1671.1	1668.8	1666.4	1661.6	1654.6	1645.1	1638.0
12.5°	1687.8	1687.8	1685.4	1680.7	1678.3	1675.9	1673.5	1666.4	1657.0	1645.1	1635.6
15°	1690.2	1685.4	1683.0	1680.7	1675.9	1668.8	1668.8	1659.4	1647.5	1633.2	1621.4
17.5°	1671.1	1673.5	1668.8	1664.0	1657.0	1652.2	1645.1	1638.0	1623.7	1607.2	1595.3
20°	1647.5	1645.1	1642.7	1635.6	1626.1	1623.7	1616.7	1604.8	1592.9	1574.0	1557.4
22.5°	1609.5	1607.2	1602.4	1597.7	1588.1	1583.5	1576.4	1562.1	1545.6	1526.6	1507.7
25°	1562.1	1557.4	1550.2	1540.8	1533.7	1528.9	1519.4	1505.3	1486.2	1465.0	1445.9
27.5°	1486.2	1493.4	1488.6	1474.4	1467.3	1457.8	1455.5	1436.4	1419.9	1398.6	1377.2
30°	1412.8	1412.8	1405.6	1398.6	1386.7	1379.6	1370.1	1355.9	1339.3	1313.3	1296.6
32.5°	1320.4	1318.0	1308.5	1306.1	1296.6	1282.5	1280.1	1261.1	1244.5	1225.5	1204.2
35°	1218.4	1213.6	1204.2	1197.1	1192.3	1185.2	1178.1	1161.5	1144.9	1126.0	1111.7
37.5°	1102.2	1102.2	1099.9	1088.1	1083.3	1078.5	1071.4	1054.9	1045.4	1026.3	1012.2
40°	990.8	988.4	981.4	979.0	974.3	967.1	962.4	952.9	938.7	924.4	910.3
42.5°	881.8	884.1	874.7	877.0	867.6	862.9	860.5	846.2	839.2	824.9	813.0
45°	784.6	782.2	777.5	775.1	770.4	765.6	761.0	753.8	741.9	727.7	720.7
47.5°	694.5	687.5	687.5	685.1	682.7	673.2	670.8	663.7	656.6	642.4	632.9
50°	609.2	609.2	609.2	606.9	599.7	597.4	592.6	585.5	578.3	568.9	554.7
52.5°	540.5	540.5	540.5	538.1	528.6	526.3	523.9	514.4	504.8	497.8	488.3
55°	476.4	478.8	476.4	471.7	464.7	464.7	457.5	452.8	443.3	436.1	426.7
57.5°	422.0	422.0	417.2	414.8	410.1	407.7	403.0	398.2	386.4	379.3	367.4
60°	369.8	367.4	367.4	362.6	357.9	353.3	350.9	343.7	339.0	327.1	317.6
62.5°	322.3	322.3	317.6	317.6	308.2	308.2	305.8	298.7	291.5	279.8	275.0
65°	277.4	277.4	275.0	272.6	265.5	263.1	260.7	253.6	246.5	239.5	232.3
67.5°	237.1	237.1	232.3	230.0	225.2	222.8	218.1	213.3	206.2	199.2	192.0
70°	199.2	196.8	194.4	192.0	187.3	184.9	180.1	175.4	168.2	163.6	156.5
72.5°	161.2	161.2	158.9	154.1	151.7	149.3	147.0	142.2	135.1	128.1	123.3
75°	125.7	125.7	125.7	120.9	116.2	113.8	113.8	109.0	104.3	97.1	92.5
77.5°	97.1	94.8	92.5	92.5	87.7	85.4	83.0	80.6	73.5	71.1	66.3
80°	66.3	68.7	66.3	64.0	61.6	59.2	59.2	54.6	52.2	47.4	42.7
82.5°	45.1	42.7	42.7	40.3	40.3	37.9	37.9	33.2	30.8	28.4	26.0
85°	23.7	23.7	21.3	21.3	21.3	18.9	18.9	16.6	16.6	14.3	11.9
87.5°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	4.8	4.8	4.8
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: P593683

CATALOG NUMBER: HC830D010-HM82555950-81WWBB

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8
2.5°	1607.2	1602.4	1600.0	1600.0	1597.7	1595.3	1592.9	1590.5	1585.8	1585.8	1581.1
5°	1619.1	1614.3	1611.9	1604.8	1600.0	1600.0	1590.5	1588.1	1581.1	1576.4	1571.6
7.5°	1628.5	1619.1	1611.9	1604.8	1600.0	1595.3	1585.8	1576.4	1566.9	1557.4	1552.6
10°	1628.5	1619.1	1607.2	1595.3	1590.5	1585.8	1574.0	1559.7	1548.0	1538.4	1526.6
12.5°	1623.7	1609.5	1595.3	1585.8	1576.4	1569.2	1555.0	1540.8	1526.6	1507.7	1498.1
15°	1609.5	1590.5	1576.4	1559.7	1552.6	1540.8	1528.9	1507.7	1491.0	1474.4	1462.6
17.5°	1581.1	1557.4	1540.8	1524.2	1512.3	1505.3	1486.2	1467.3	1448.3	1429.4	1415.1
20°	1538.4	1517.0	1498.1	1476.7	1467.3	1457.8	1434.2	1415.1	1396.2	1374.8	1360.7
22.5°	1486.2	1465.0	1438.8	1422.3	1408.0	1396.2	1374.8	1353.6	1334.5	1315.6	1296.6
25°	1422.3	1400.9	1377.2	1351.2	1341.7	1329.8	1306.1	1284.8	1263.4	1242.1	1225.5
27.5°	1353.6	1325.0	1306.1	1277.7	1268.2	1256.3	1230.3	1206.6	1187.6	1171.0	1152.0
30°	1270.6	1249.3	1223.1	1197.1	1187.6	1175.7	1154.4	1133.1	1114.1	1095.2	1076.2
32.5°	1180.4	1159.2	1133.1	1114.1	1099.9	1090.4	1069.0	1050.1	1031.1	1012.2	995.5
35°	1085.7	1062.0	1043.0	1024.1	1012.2	1000.3	979.0	962.4	948.2	931.6	914.9
37.5°	988.4	971.9	952.9	931.6	919.7	910.3	893.7	874.7	862.9	848.6	836.8
40°	893.7	874.7	858.1	839.2	829.7	822.6	805.9	791.8	779.9	768.0	761.0
42.5°	796.5	779.9	763.3	751.4	744.3	737.2	725.4	708.8	701.6	689.9	682.7
45°	706.4	692.1	680.3	663.7	658.9	654.2	640.0	628.1	621.0	614.0	609.2
47.5°	621.0	611.6	597.4	587.8	580.7	576.1	566.6	557.0	549.9	545.2	540.5
50°	547.5	535.8	526.3	516.7	512.0	504.8	495.5	490.7	485.9	481.2	481.2
52.5°	478.8	466.9	457.5	450.4	445.6	440.9	433.7	431.4	426.7	426.7	424.4
55°	414.8	407.7	398.2	388.8	386.4	384.0	379.3	374.5	372.2	369.8	372.2
57.5°	360.3	353.3	343.7	336.6	334.2	331.8	329.5	324.7	322.3	322.3	322.3
60°	310.6	303.4	296.3	289.2	289.2	284.4	282.0	279.8	277.4	275.0	275.0
62.5°	265.5	258.4	251.2	246.5	244.1	241.8	237.1	234.7	232.3	232.3	230.0
65°	225.2	215.7	213.3	206.2	203.9	201.5	199.2	194.4	192.0	189.6	187.3
67.5°	184.9	180.1	173.0	168.2	166.0	163.6	161.2	156.5	154.1	151.7	147.0
70°	149.3	144.6	139.8	135.1	132.7	130.4	125.7	120.9	118.5	113.8	106.7
72.5°	116.2	111.4	106.7	101.9	99.5	97.1	92.5	87.7	83.0	78.2	73.5
75°	87.7	83.0	75.9	71.1	68.7	68.7	61.6	56.8	52.2	45.1	40.3
77.5°	61.6	54.6	52.2	47.4	45.1	40.3	35.6	30.8	26.0	23.7	18.9
80°	40.3	35.6	30.8	28.4	26.0	23.7	21.3	16.6	11.9	9.5	7.1
82.5°	23.7	21.3	18.9	16.6	14.3	11.9	9.5	9.5	7.1	4.8	2.4
85°	11.9	9.5	7.1	7.1	4.8	4.8	4.8	2.4	2.4	2.4	2.4
87.5°	4.8	2.4	2.4	2.4	2.4	2.4	2.4	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: P593683

CATALOG NUMBER: HC830D010-HM82555950-81WWBB

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8
2.5°	1578.8	1576.4	1574.0	1571.6	1571.6	1566.9	1566.9	1564.5	1559.7	1557.4	1557.4
5°	1564.5	1557.4	1552.6	1550.2	1548.0	1540.8	1538.4	1533.7	1528.9	1524.2	1521.8
7.5°	1543.2	1531.3	1526.6	1524.2	1517.0	1510.0	1505.3	1498.1	1491.0	1483.9	1481.5
10°	1517.0	1505.3	1493.4	1488.6	1481.5	1476.7	1467.3	1457.8	1450.7	1443.6	1436.4
12.5°	1483.9	1469.7	1457.8	1453.1	1445.9	1436.4	1422.3	1417.5	1405.6	1400.9	1391.5
15°	1445.9	1429.4	1417.5	1410.4	1403.3	1389.1	1379.6	1370.1	1358.3	1353.6	1344.0
17.5°	1398.6	1379.6	1367.7	1360.7	1355.9	1344.0	1329.8	1318.0	1306.1	1301.4	1294.2
20°	1341.7	1329.8	1313.3	1306.1	1301.4	1287.1	1272.9	1268.2	1258.7	1249.3	1242.1
22.5°	1277.7	1265.8	1249.3	1242.1	1239.8	1227.9	1216.0	1209.0	1201.8	1194.7	1187.6
25°	1211.4	1197.1	1182.8	1178.1	1173.4	1163.9	1154.4	1149.6	1142.5	1137.8	1133.1
27.5°	1140.1	1126.0	1114.1	1107.0	1102.2	1095.2	1090.4	1085.7	1080.9	1076.2	1073.8
30°	1064.3	1050.1	1040.6	1035.9	1031.1	1028.7	1021.7	1019.3	1017.0	1012.2	1014.6
32.5°	988.4	976.6	967.1	960.0	960.0	955.2	952.9	952.9	950.6	950.6	950.6
35°	905.5	898.4	891.3	888.9	886.5	884.1	881.8	884.1	881.8	884.1	886.5
37.5°	829.7	822.6	817.8	815.4	813.0	815.4	813.0	813.0	815.4	820.2	822.6
40°	751.4	746.7	741.9	744.3	741.9	741.9	741.9	749.1	751.4	753.8	756.2
42.5°	678.0	673.2	670.8	670.8	673.2	670.8	675.6	678.0	682.7	689.9	694.5
45°	606.9	604.5	604.5	606.9	604.5	609.2	609.2	614.0	621.0	625.8	630.5
47.5°	540.5	540.5	540.5	542.8	542.8	545.2	549.9	552.3	557.0	561.8	566.6
50°	478.8	481.2	483.6	483.6	483.6	488.3	493.1	495.5	497.8	500.2	507.2
52.5°	424.4	426.7	426.7	429.0	431.4	433.7	436.1	440.9	443.3	448.0	450.4
55°	372.2	372.2	376.9	379.3	379.3	379.3	384.0	384.0	388.8	391.2	395.8
57.5°	322.3	324.7	324.7	327.1	327.1	329.5	331.8	334.2	336.6	339.0	341.4
60°	275.0	275.0	275.0	277.4	279.8	282.0	279.8	284.4	284.4	289.2	291.5
62.5°	230.0	232.3	232.3	232.3	232.3	232.3	232.3	234.7	237.1	239.5	241.8
65°	187.3	187.3	187.3	184.9	187.3	184.9	187.3	189.6	189.6	192.0	194.4
67.5°	144.6	144.6	139.8	139.8	142.2	142.2	142.2	142.2	139.8	144.6	144.6
70°	104.3	101.9	99.5	97.1	97.1	94.8	94.8	92.5	92.5	92.5	92.5
72.5°	68.7	64.0	59.2	56.8	54.6	54.6	49.8	47.4	49.8	49.8	49.8
75°	35.6	30.8	28.4	26.0	23.7	23.7	21.3	21.3	21.3	21.3	21.3
77.5°	14.3	11.9	9.5	9.5	7.1	7.1	7.1	7.1	7.1	7.1	7.1
80°	4.8	4.8	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
82.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
85°	2.4	0.0	0.0	2.4	0.0	2.4	2.4	2.4	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: P593683

CATALOG NUMBER: HC830D010-HM82555950-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8	1585.8
2.5°	1555.0	1555.0	1552.6	1555.0	1550.2	1552.6	1550.2	1550.2
5°	1519.4	1514.7	1514.7	1514.7	1512.3	1512.3	1510.0	1510.0
7.5°	1476.7	1474.4	1472.1	1469.7	1467.3	1465.0	1465.0	1465.0
10°	1434.2	1429.4	1429.4	1427.0	1422.3	1419.9	1419.9	1419.9
12.5°	1384.4	1382.0	1379.6	1379.6	1370.1	1372.5	1370.1	1370.1
15°	1336.9	1334.5	1334.5	1327.4	1322.8	1322.8	1322.8	1320.4
17.5°	1287.1	1284.8	1282.5	1277.7	1272.9	1272.9	1270.6	1272.9
20°	1235.0	1232.6	1227.9	1227.9	1225.5	1223.1	1218.4	1220.7
22.5°	1182.8	1178.1	1175.7	1175.7	1173.4	1173.4	1168.7	1168.7
25°	1128.4	1126.0	1123.6	1126.0	1121.2	1121.2	1116.5	1116.5
27.5°	1071.4	1069.0	1069.0	1069.0	1066.7	1069.0	1066.7	1066.7
30°	1014.6	1014.6	1012.2	1012.2	1014.6	1012.2	1014.6	1017.0
32.5°	952.9	952.9	955.2	955.2	957.6	957.6	957.6	957.6
35°	888.9	893.7	893.7	896.0	898.4	900.8	900.8	903.2
37.5°	829.7	832.1	834.4	836.8	841.5	841.5	841.5	841.5
40°	765.6	768.0	772.7	770.4	779.9	782.2	779.9	779.9
42.5°	699.3	704.0	706.4	711.1	713.5	718.3	720.7	720.7
45°	637.7	640.0	644.8	649.6	651.9	658.9	658.9	658.9
47.5°	573.7	578.3	580.7	585.5	587.8	595.0	597.4	595.0
50°	512.0	516.7	521.5	521.5	528.6	531.0	535.8	538.1
52.5°	452.8	455.1	459.9	462.3	466.9	471.7	474.1	476.4
55°	395.8	398.2	403.0	403.0	410.1	412.5	417.2	417.2
57.5°	343.7	346.1	350.9	348.5	353.3	357.9	357.9	355.5
60°	293.9	293.9	293.9	298.7	301.1	303.4	305.8	305.8
62.5°	241.8	246.5	248.9	248.9	251.2	253.6	253.6	251.2
65°	194.4	199.2	201.5	201.5	203.9	203.9	203.9	206.2
67.5°	147.0	147.0	147.0	149.3	147.0	147.0	147.0	147.0
70°	92.5	92.5	92.5	92.5	90.1	92.5	92.5	94.8
72.5°	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8
75°	21.3	21.3	21.3	23.7	21.3	21.3	21.3	21.3
77.5°	9.5	7.1	9.5	9.5	7.1	7.1	7.1	7.1
80°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
82.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
85°	0.0	2.4	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)