

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: P584251

Luminaire Tested: **HC830D010-HM82555827-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584251
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-HM82555827-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3146.1 lumens
Efficiency: N/A
Efficacy: 112.4 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

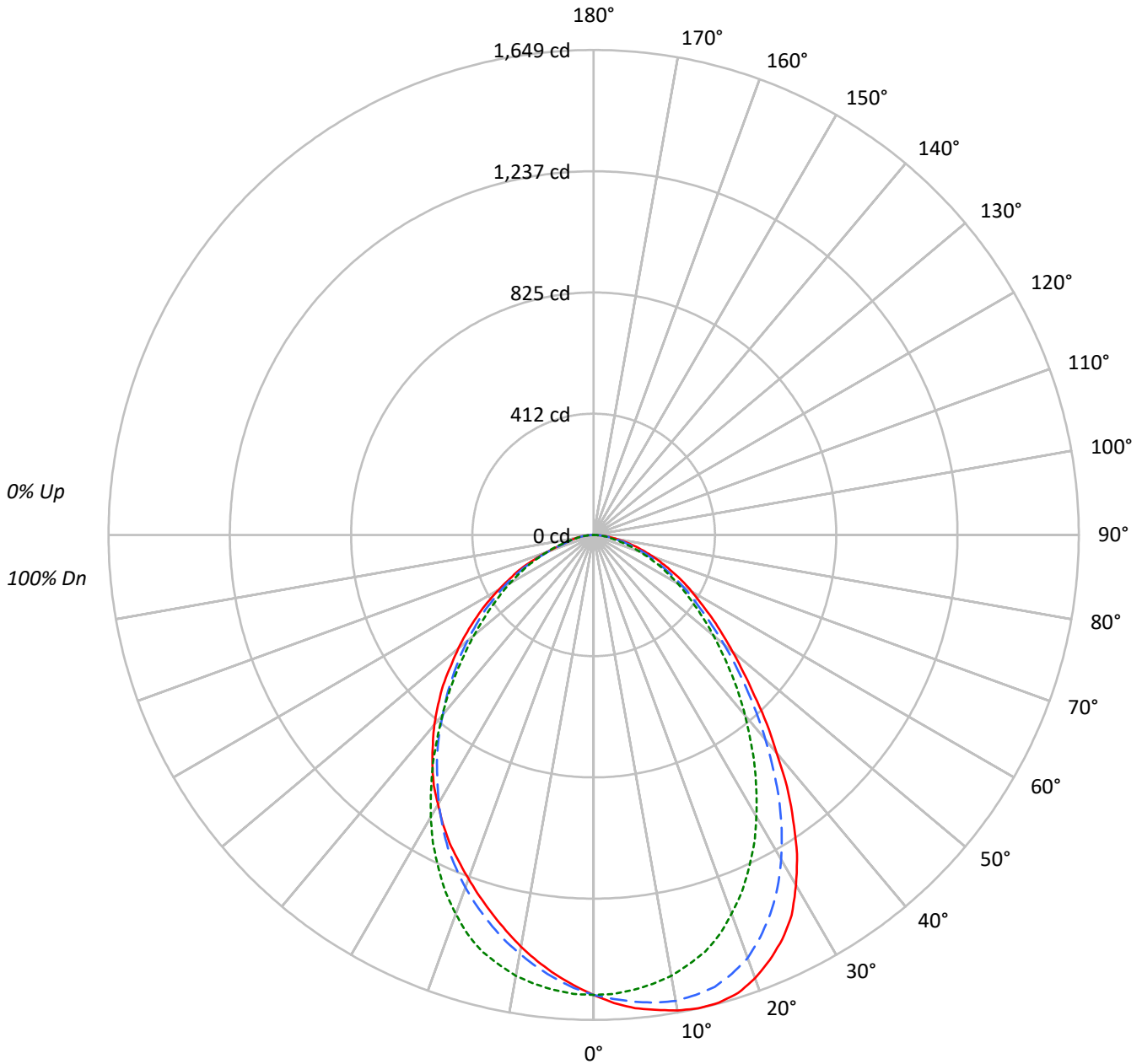
Input Watts (W): 28
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	48234	48234	48234
5°	50003	48078	46425
10°	51414	47657	44526
15°	52560	46817	42561
20°	52642	44987	40832
25°	51635	42486	39386
30°	48973	39399	37658
35°	44499	35882	35969
40°	38905	32203	33902
45°	33719	28686	31586
50°	29522	25474	28784
55°	26279	22580	26042
60°	23707	20284	22887
65°	21401	17840	19949
70°	19231	15030	14822
75°	16942	11914	11116
80°	14206	9856	10655
85°	11039	8668	9411



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.6	4.7
10°-20°	415.6	13.2
20°-30°	594.0	18.9
30°-40°	631.2	20.1
40°-50°	543.4	17.3
50°-60°	406.3	12.9
60°-70°	259.1	8.2
70°-80°	117.9	3.7
80°-90°	30.9	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°	1157.2	36.8
0°-40°	1788.4	56.8
0°-60°	2738.1	87.0
0°-90°	3146.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3146.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1564	1564	1564	1564	1564	
5°	1615	1593	1553	1513	1500	155
15°	1646	1591	1466	1366	1333	464
25°	1518	1422	1249	1173	1158	695
35°	1182	1100	953	929	956	736
45°	773	731	658	676	724	601
55°	489	449	420	456	484	440
65°	293	260	244	256	273	293
75°	142	122	100	91	93	151
85°	31	27	24	27	27	38
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°	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2
2.5°	1593.1	1588.7	1590.9	1588.7	1590.9	1590.9	1586.5	1586.5	1586.5	1586.5	1579.8
5°	1615.4	1613.1	1613.1	1610.9	1608.7	1610.9	1608.7	1606.5	1602.1	1599.8	1593.1
7.5°	1628.7	1628.7	1628.7	1628.7	1626.4	1624.3	1622.0	1617.6	1613.1	1608.7	1604.2
10°	1642.0	1644.3	1642.0	1639.7	1637.6	1633.1	1631.0	1626.4	1619.8	1613.1	1608.7
12.5°	1648.7	1648.7	1646.4	1646.4	1642.0	1639.7	1633.1	1626.4	1619.8	1613.1	1602.1
15°	1646.4	1646.4	1644.3	1642.0	1635.4	1633.1	1628.7	1622.0	1610.9	1602.1	1590.9
17.5°	1633.1	1631.0	1626.4	1626.4	1617.6	1615.4	1610.9	1602.1	1590.9	1577.6	1564.2
20°	1604.2	1604.2	1602.1	1599.8	1590.9	1584.2	1579.8	1568.6	1559.8	1544.3	1531.0
22.5°	1564.2	1568.6	1564.2	1559.8	1548.7	1546.5	1539.8	1526.4	1513.1	1495.4	1479.8
25°	1517.6	1515.4	1513.1	1508.7	1499.8	1495.4	1486.5	1473.2	1459.9	1439.9	1422.0
27.5°	1457.6	1448.7	1448.7	1439.9	1433.1	1426.4	1422.0	1408.7	1390.9	1375.4	1353.2
30°	1375.4	1377.6	1366.5	1364.3	1353.2	1348.7	1339.9	1326.4	1311.0	1293.2	1275.4
32.5°	1286.5	1279.8	1279.8	1270.9	1262.1	1255.3	1253.2	1237.6	1224.3	1206.5	1188.8
35°	1182.1	1182.1	1175.4	1173.2	1164.3	1159.9	1153.2	1144.3	1128.7	1113.1	1099.8
37.5°	1079.8	1075.5	1073.2	1068.8	1062.1	1055.5	1055.5	1039.9	1037.6	1019.9	1002.1
40°	966.5	970.9	966.5	959.9	957.6	953.2	951.0	942.2	935.4	919.9	908.8
42.5°	871.1	866.5	866.5	864.3	855.5	855.5	851.0	846.6	835.5	831.0	817.7
45°	773.2	777.7	771.1	773.2	764.4	764.4	764.4	755.5	746.6	739.9	731.0
47.5°	688.8	691.0	691.0	684.4	682.1	682.1	677.7	673.2	666.6	657.8	651.0
50°	615.4	617.7	613.3	611.0	606.6	604.4	604.4	595.5	591.1	582.1	577.7
52.5°	548.8	548.8	546.6	546.6	539.9	539.9	535.5	528.9	524.3	519.9	508.8
55°	488.8	488.8	486.7	484.4	484.4	477.7	475.5	468.8	464.4	455.5	448.8
57.5°	431.0	433.3	431.0	428.9	426.6	424.4	420.0	413.3	408.9	402.1	397.7
60°	384.4	384.4	382.1	380.0	375.5	373.3	371.1	366.6	359.9	355.5	348.9
62.5°	339.9	337.8	335.5	333.3	328.9	328.9	324.4	320.0	313.3	308.9	304.4
65°	293.3	293.3	291.1	291.1	288.8	284.4	282.1	280.0	271.1	268.8	259.9
67.5°	251.1	253.3	248.9	248.9	244.5	244.5	242.2	235.5	233.3	228.9	224.4
70°	213.3	213.3	213.3	211.0	206.6	204.4	202.2	197.7	195.6	191.1	186.7
72.5°	175.5	175.5	173.4	173.4	171.1	168.8	166.7	162.2	162.2	157.8	153.3
75°	142.2	142.2	139.9	137.8	135.5	135.5	133.3	131.1	126.6	124.5	122.2
77.5°	108.9	108.9	108.9	106.7	104.4	104.4	104.4	100.0	95.6	95.6	93.3
80°	80.0	80.0	77.8	77.8	75.5	75.5	75.5	73.4	71.1	68.8	66.7
82.5°	53.4	53.4	53.4	53.4	51.1	51.1	51.1	48.9	46.6	46.6	46.6
85°	31.2	31.2	31.2	31.2	28.9	28.9	28.9	28.9	28.9	26.6	26.6
87.5°	13.3	11.1	13.3	11.1	13.3	11.1	13.3	11.1	11.1	11.1	11.1
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°	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2
2.5°	1582.1	1579.8	1577.6	1575.3	1575.3	1573.2	1568.6	1566.5	1564.2	1562.0	1562.0
5°	1590.9	1588.7	1584.2	1579.8	1577.6	1573.2	1568.6	1564.2	1559.8	1553.2	1550.9
7.5°	1597.5	1590.9	1586.5	1577.6	1575.3	1570.9	1564.2	1557.6	1548.7	1539.8	1533.1
10°	1597.5	1588.7	1582.1	1570.9	1566.5	1562.0	1553.2	1542.0	1531.0	1522.0	1511.0
12.5°	1593.1	1582.1	1570.9	1559.8	1553.2	1546.5	1533.1	1522.0	1508.7	1495.4	1486.5
15°	1577.6	1564.2	1550.9	1537.6	1531.0	1522.0	1508.7	1493.1	1479.8	1466.5	1450.9
17.5°	1548.7	1535.4	1519.8	1504.2	1495.4	1488.7	1468.7	1457.6	1437.6	1424.3	1411.0
20°	1511.0	1495.4	1475.4	1459.9	1448.7	1442.0	1426.4	1406.5	1390.9	1370.9	1357.6
22.5°	1462.0	1442.0	1422.0	1406.5	1395.4	1386.5	1366.5	1346.5	1333.2	1315.4	1299.8
25°	1404.3	1384.2	1364.3	1342.0	1331.0	1322.0	1304.3	1286.5	1268.8	1248.7	1235.4
27.5°	1335.4	1313.1	1295.4	1275.4	1264.3	1250.9	1231.0	1213.1	1195.4	1182.1	1164.3
30°	1259.9	1235.4	1217.7	1197.7	1186.5	1175.4	1155.5	1137.6	1122.1	1106.5	1097.7
32.5°	1168.8	1151.0	1133.2	1113.1	1104.3	1097.7	1077.6	1059.9	1042.0	1028.7	1022.1
35°	1082.1	1062.1	1046.6	1028.7	1017.7	1011.0	993.2	977.7	968.8	953.2	944.3
37.5°	991.0	975.5	957.6	939.9	933.2	926.6	913.3	897.7	884.4	873.2	868.8
40°	895.4	882.1	866.5	855.5	848.8	842.2	831.0	819.9	811.0	800.0	795.4
42.5°	804.4	795.4	782.1	768.8	762.1	759.9	746.6	737.7	733.3	728.9	724.3
45°	722.1	708.8	700.0	691.0	684.4	679.9	673.2	666.6	662.2	657.8	653.2
47.5°	642.2	631.0	622.2	615.4	608.8	606.6	602.1	595.5	591.1	591.1	591.1
50°	568.8	559.9	551.1	546.6	544.3	539.9	535.5	533.3	531.0	531.0	531.0
52.5°	504.4	495.5	488.8	484.4	484.4	480.0	475.5	473.2	473.2	473.2	473.2
55°	444.4	437.7	433.3	428.9	424.4	422.2	422.2	422.2	420.0	420.0	422.2
57.5°	391.1	386.7	380.0	375.5	373.3	373.3	371.1	368.8	371.1	373.3	375.5
60°	342.2	337.8	335.5	328.9	328.9	328.9	326.6	326.6	326.6	328.9	331.0
62.5°	297.7	295.5	291.1	288.8	286.7	286.7	284.4	284.4	284.4	284.4	286.7
65°	257.8	253.3	248.9	248.9	248.9	246.6	246.6	242.2	244.5	244.5	242.2
67.5°	220.0	215.6	213.3	211.0	208.9	208.9	206.6	204.4	202.2	202.2	202.2
70°	184.4	180.0	180.0	175.5	175.5	173.4	171.1	171.1	168.8	166.7	164.4
72.5°	148.9	146.6	144.5	142.2	142.2	142.2	139.9	137.8	135.5	133.3	128.9
75°	117.7	117.7	113.3	111.1	111.1	108.9	106.7	104.4	102.3	100.0	97.7
77.5°	91.1	88.9	84.4	82.2	82.2	82.2	80.0	77.8	75.5	73.4	71.1
80°	66.7	64.4	62.2	60.0	60.0	60.0	57.8	57.8	55.5	55.5	55.5
82.5°	44.5	44.5	42.2	42.2	42.2	42.2	40.0	40.0	40.0	40.0	40.0
85°	26.6	26.6	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
87.5°	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1
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°	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2
2.5°	1557.6	1557.6	1553.2	1550.9	1548.7	1550.9	1546.5	1544.3	1542.0	1542.0	1539.8
5°	1544.3	1542.0	1533.1	1531.0	1528.7	1526.4	1522.0	1517.6	1513.1	1511.0	1508.7
7.5°	1526.4	1519.8	1511.0	1508.7	1506.5	1499.8	1493.1	1488.7	1482.1	1479.8	1475.4
10°	1502.1	1493.1	1486.5	1479.8	1475.4	1468.7	1462.0	1455.3	1446.5	1444.3	1437.6
12.5°	1473.2	1462.0	1448.7	1446.5	1439.9	1431.0	1422.0	1415.4	1408.7	1404.3	1397.6
15°	1437.6	1426.4	1413.1	1406.5	1399.8	1393.2	1382.1	1373.2	1366.5	1359.9	1353.2
17.5°	1395.4	1382.1	1370.9	1364.3	1359.9	1348.7	1339.9	1328.7	1322.0	1315.4	1308.7
20°	1344.3	1333.2	1317.6	1311.0	1308.7	1299.8	1288.8	1284.2	1275.4	1268.8	1264.3
22.5°	1286.5	1275.4	1262.1	1257.6	1248.7	1244.3	1233.2	1228.7	1224.3	1217.7	1215.4
25°	1222.1	1211.0	1199.8	1197.7	1191.0	1186.5	1179.8	1173.2	1173.2	1166.5	1166.5
27.5°	1155.5	1144.3	1135.4	1131.0	1128.7	1124.3	1117.7	1115.4	1113.1	1111.0	1111.0
30°	1084.4	1070.9	1066.5	1064.3	1062.1	1057.6	1055.5	1051.0	1053.2	1055.5	1053.2
32.5°	1008.7	1004.3	995.4	991.0	993.2	991.0	986.5	991.0	988.8	993.2	995.4
35°	935.4	931.0	926.6	926.6	922.1	922.1	922.1	924.3	928.7	931.0	935.4
37.5°	864.3	857.6	855.5	853.2	855.5	855.5	855.5	859.9	864.3	868.8	875.5
40°	788.8	784.4	784.4	784.4	784.4	791.0	788.8	793.2	797.7	804.4	811.0
42.5°	717.7	717.7	719.9	719.9	719.9	719.9	724.3	731.0	737.7	744.3	751.0
45°	651.0	651.0	651.0	655.5	655.5	657.8	666.6	671.1	675.5	682.1	688.8
47.5°	588.8	588.8	591.1	593.3	595.5	600.0	604.4	611.0	617.7	622.2	628.9
50°	531.0	533.3	537.7	542.2	542.2	544.3	551.1	555.5	559.9	566.6	568.8
52.5°	475.5	480.0	484.4	486.7	488.8	493.3	495.5	502.1	504.4	511.0	513.3
55°	424.4	426.6	433.3	435.5	435.5	439.9	444.4	448.8	455.5	455.5	459.9
57.5°	377.7	380.0	384.4	386.7	384.4	391.1	393.3	397.7	400.0	404.4	406.6
60°	331.0	335.5	337.8	337.8	339.9	342.2	346.6	346.6	351.1	355.5	355.5
62.5°	286.7	288.8	291.1	293.3	295.5	293.3	300.0	300.0	304.4	306.6	311.0
65°	244.5	246.6	246.6	248.9	248.9	251.1	251.1	253.3	255.5	259.9	262.2
67.5°	202.2	202.2	202.2	204.4	202.2	204.4	204.4	206.6	206.6	211.0	213.3
70°	164.4	162.2	160.0	160.0	160.0	160.0	157.8	160.0	160.0	162.2	162.2
72.5°	126.6	124.5	122.2	120.0	120.0	117.7	115.6	117.7	117.7	120.0	120.0
75°	95.6	91.1	91.1	91.1	88.9	88.9	88.9	91.1	91.1	91.1	93.3
77.5°	71.1	71.1	68.8	68.8	68.8	71.1	71.1	73.4	73.4	73.4	73.4
80°	53.4	55.5	55.5	55.5	55.5	57.8	57.8	57.8	57.8	60.0	60.0
82.5°	40.0	40.0	40.0	40.0	42.2	42.2	42.2	42.2	42.2	42.2	42.2
85°	24.5	26.6	26.6	24.5	26.6	26.6	26.6	26.6	26.6	26.6	26.6
87.5°	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1
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: P584251

CATALOG NUMBER: HC830D010-HM82555827-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2	1564.2
2.5°	1537.6	1537.6	1537.6	1537.6	1535.4	1535.4	1535.4	1533.1
5°	1504.2	1504.2	1504.2	1499.8	1502.1	1502.1	1497.5	1499.8
7.5°	1470.9	1468.7	1466.5	1466.5	1464.3	1462.0	1459.9	1462.0
10°	1433.1	1426.4	1426.4	1424.3	1424.3	1419.8	1419.8	1422.0
12.5°	1390.9	1386.5	1386.5	1384.2	1382.1	1379.8	1377.6	1377.6
15°	1348.7	1344.3	1342.0	1339.9	1337.6	1333.2	1335.4	1333.2
17.5°	1306.5	1299.8	1299.8	1297.7	1295.4	1290.9	1290.9	1288.8
20°	1257.6	1255.3	1250.9	1253.2	1250.9	1246.5	1244.3	1244.3
22.5°	1208.7	1208.7	1206.5	1206.5	1204.3	1202.1	1199.8	1199.8
25°	1162.1	1159.9	1162.1	1162.1	1155.5	1155.5	1155.5	1157.6
27.5°	1108.7	1111.0	1108.7	1108.7	1108.7	1108.7	1111.0	1108.7
30°	1055.5	1055.5	1055.5	1057.6	1062.1	1059.9	1059.9	1057.6
32.5°	997.7	999.8	999.8	1002.1	1004.3	1008.7	1008.7	1011.0
35°	939.9	944.3	946.6	944.3	951.0	951.0	955.5	955.5
37.5°	879.9	882.1	886.5	888.8	893.2	895.4	897.7	897.7
40°	815.4	824.3	826.6	828.7	835.5	835.5	837.7	842.2
42.5°	755.5	764.4	766.5	768.8	773.2	779.9	777.7	782.1
45°	697.7	704.4	706.6	708.8	715.4	717.7	717.7	724.3
47.5°	635.5	639.9	642.2	646.6	651.0	655.5	659.9	657.8
50°	573.2	579.9	584.4	586.7	593.3	595.5	597.7	600.0
52.5°	517.7	522.2	524.3	526.6	533.3	535.5	537.7	542.2
55°	464.4	466.6	471.1	468.8	475.5	477.7	480.0	484.4
57.5°	411.0	413.3	415.6	415.6	420.0	424.4	426.6	428.9
60°	359.9	364.4	366.6	366.6	366.6	371.1	371.1	371.1
62.5°	313.3	313.3	315.6	315.6	320.0	320.0	320.0	320.0
65°	264.4	266.7	268.8	268.8	273.4	271.1	275.5	273.4
67.5°	213.3	213.3	217.7	217.7	215.6	217.7	217.7	217.7
70°	162.2	162.2	164.4	164.4	164.4	164.4	164.4	164.4
72.5°	120.0	120.0	120.0	122.2	120.0	120.0	122.2	120.0
75°	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3
77.5°	73.4	73.4	75.5	75.5	75.5	75.5	75.5	75.5
80°	60.0	60.0	60.0	60.0	62.2	60.0	60.0	60.0
82.5°	44.5	42.2	44.5	42.2	44.5	44.5	44.5	44.5
85°	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6
87.5°	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1
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)