

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: P584589

Luminaire Tested: **HC840D010-HM82555927-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584589
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: HC840D010-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: 3108.0 lumens
Efficiency: N/A
Efficacy: 75.8 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

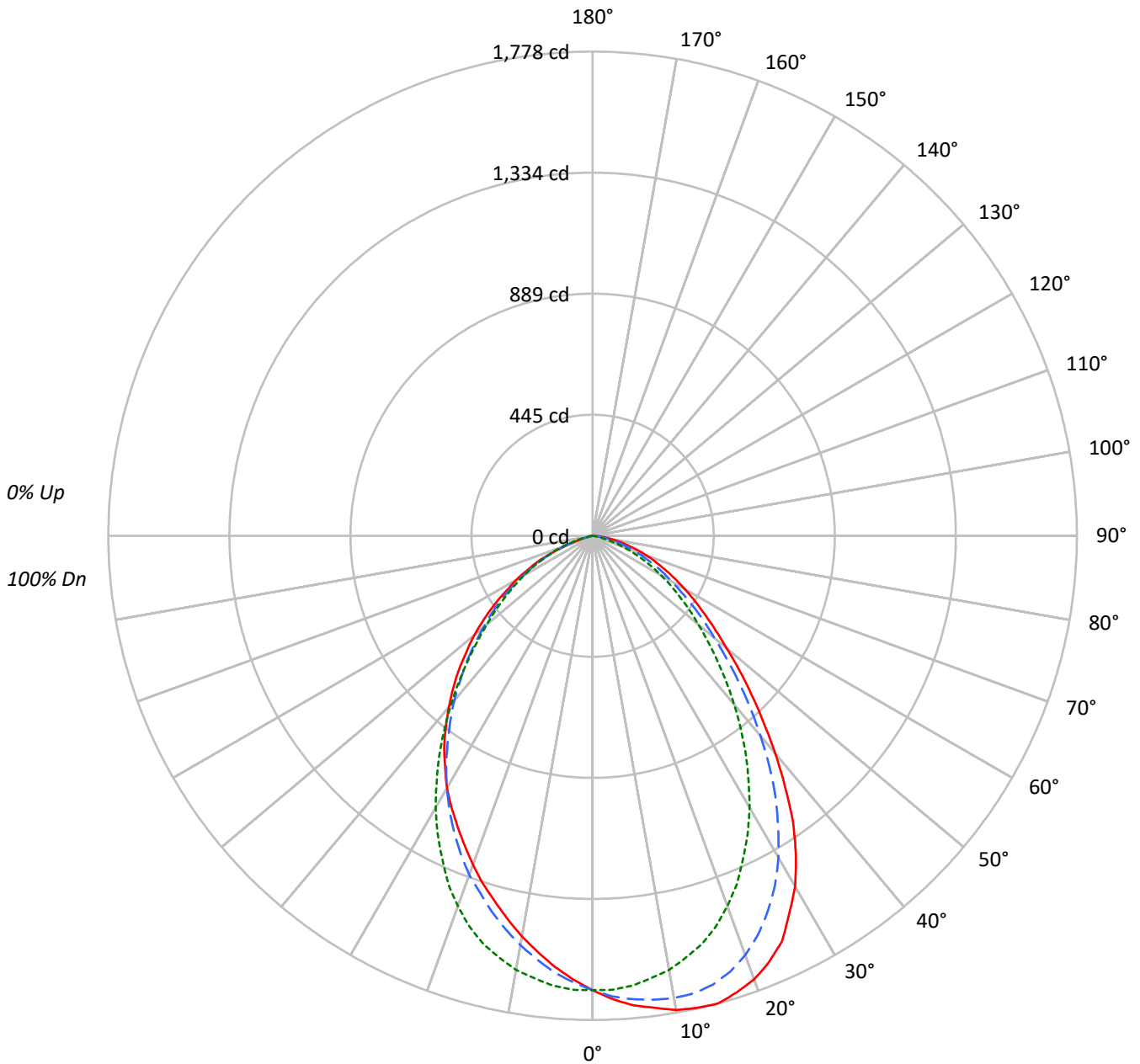
Input Watts (W): 41
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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°	51453	51453	51453
5°	53578	51340	49180
10°	55369	50682	46777
15°	56771	49524	44349
20°	56882	47471	42151
25°	55922	44466	39972
30°	52929	41030	38096
35°	48260	36899	35770
40°	41969	32529	33028
45°	35999	28167	30239
50°	30746	24289	27162
55°	26951	20919	23601
60°	23997	17842	19846
65°	21291	14564	15826
70°	18897	10792	8989
75°	15751	5647	2681
80°	12413	1776	444
85°	8845	885	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.2	5.1
10°-20°	440.7	14.2
20°-30°	623.7	20.1
30°-40°	652.5	21.0
40°-50°	544.3	17.5
50°-60°	385.9	12.4
60°-70°	222.3	7.2
70°-80°	71.5	2.3
80°-90°	9.9	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°	1221.6	39.3
0°-40°	1874.1	60.3
0°-60°	2804.3	90.2
0°-90°	3108.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3108.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1669	1669	1669	1669	1669	
5°	1731	1708	1659	1609	1589	166
15°	1778	1706	1551	1429	1389	500
25°	1644	1521	1307	1202	1175	750
35°	1282	1170	980	928	950	795
45°	826	758	646	653	693	640
55°	501	449	389	409	439	453
65°	292	244	200	200	217	292
75°	132	97	47	22	22	143
85°	25	12	2	0	0	31
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°	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6
2.5°	1703.5	1701.0	1698.5	1701.0	1698.5	1701.0	1698.5	1698.5	1696.0	1693.5	1693.5
5°	1730.9	1728.5	1728.5	1728.5	1726.0	1723.5	1723.5	1721.0	1716.0	1713.5	1708.5
7.5°	1748.3	1750.8	1750.8	1750.8	1745.8	1745.8	1740.9	1735.9	1730.9	1726.0	1718.5
10°	1768.3	1768.3	1765.8	1763.3	1758.3	1755.8	1753.3	1748.3	1740.9	1730.9	1723.5
12.5°	1775.8	1775.8	1773.3	1768.3	1765.8	1763.3	1760.8	1753.3	1743.4	1730.9	1721.0
15°	1778.3	1773.3	1770.8	1768.3	1763.3	1755.8	1755.8	1745.8	1733.4	1718.5	1706.0
17.5°	1758.3	1760.8	1755.8	1750.8	1743.4	1738.4	1730.9	1723.5	1708.5	1691.0	1678.5
20°	1733.4	1730.9	1728.5	1721.0	1711.0	1708.5	1701.0	1688.5	1676.0	1656.1	1638.6
22.5°	1693.5	1691.0	1686.0	1681.0	1671.0	1666.1	1658.6	1643.6	1626.1	1606.3	1586.3
25°	1643.6	1638.6	1631.1	1621.1	1613.6	1608.8	1598.8	1583.8	1563.8	1541.4	1521.4
27.5°	1563.8	1571.3	1566.3	1551.3	1543.9	1533.9	1531.4	1511.4	1493.9	1471.6	1449.1
30°	1486.5	1486.5	1479.1	1471.6	1459.1	1451.6	1441.6	1426.7	1409.2	1381.7	1364.3
32.5°	1389.2	1386.7	1376.7	1374.2	1364.3	1349.3	1346.8	1326.8	1309.4	1289.5	1267.0
35°	1282.0	1277.0	1267.0	1259.5	1254.5	1247.0	1239.6	1222.1	1204.6	1184.6	1169.8
37.5°	1159.8	1159.8	1157.3	1144.8	1139.8	1134.8	1127.3	1109.9	1099.9	1079.9	1064.9
40°	1042.6	1040.1	1032.6	1030.1	1025.1	1017.6	1012.6	1002.6	987.7	972.7	957.7
42.5°	927.8	930.3	920.3	922.8	912.8	907.9	905.4	890.4	882.9	868.0	855.5
45°	825.5	823.0	818.1	815.6	810.6	805.6	800.6	793.1	780.6	765.6	758.3
47.5°	730.8	723.3	723.3	720.8	718.3	708.3	705.8	698.3	690.9	675.9	665.9
50°	640.9	640.9	640.9	638.4	631.1	628.6	623.6	616.1	608.6	598.6	583.6
52.5°	568.7	568.7	568.7	566.2	556.2	553.7	551.2	541.2	531.2	523.7	513.8
55°	501.3	503.8	501.3	496.3	488.9	488.9	481.4	476.4	466.4	458.9	449.0
57.5°	444.0	444.0	439.0	436.5	431.5	429.0	424.0	419.0	406.5	399.0	386.6
60°	389.1	386.6	386.6	381.6	376.6	371.6	369.1	361.6	356.6	344.1	334.2
62.5°	339.2	339.2	334.2	334.2	324.3	324.3	321.8	314.3	306.8	294.3	289.3
65°	291.8	291.8	289.3	286.8	279.3	276.8	274.3	266.9	259.4	251.9	244.4
67.5°	249.4	249.4	244.4	241.9	236.9	234.4	229.4	224.4	216.9	209.6	202.1
70°	209.6	207.1	204.6	202.1	197.1	194.6	189.6	184.6	177.1	172.1	164.6
72.5°	169.6	169.6	167.1	162.1	159.6	157.1	154.6	149.7	142.2	134.7	129.7
75°	132.2	132.2	132.2	127.2	122.2	119.7	119.7	114.7	109.7	102.2	97.2
77.5°	102.2	99.7	97.2	97.2	92.2	89.8	87.3	84.8	77.4	74.9	69.9
80°	69.9	72.4	69.9	67.4	64.9	62.4	62.4	57.4	54.9	49.9	44.9
82.5°	47.4	44.9	44.9	42.4	42.4	39.9	39.9	34.9	32.4	30.0	27.5
85°	25.0	25.0	22.5	22.5	22.5	20.0	20.0	17.5	17.5	15.0	12.5
87.5°	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	5.0	5.0	5.0
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°	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6
2.5°	1691.0	1686.0	1683.5	1683.5	1681.0	1678.5	1676.0	1673.5	1668.6	1668.6	1663.6
5°	1703.5	1698.5	1696.0	1688.5	1683.5	1683.5	1673.5	1671.0	1663.6	1658.6	1653.6
7.5°	1713.5	1703.5	1696.0	1688.5	1683.5	1678.5	1668.6	1658.6	1648.6	1638.6	1633.6
10°	1713.5	1703.5	1691.0	1678.5	1673.5	1668.6	1656.1	1641.1	1628.6	1618.6	1606.3
12.5°	1708.5	1693.5	1678.5	1668.6	1658.6	1651.1	1636.1	1621.1	1606.3	1586.3	1576.3
15°	1693.5	1673.5	1658.6	1641.1	1633.6	1621.1	1608.8	1586.3	1568.8	1551.3	1538.9
17.5°	1663.6	1638.6	1621.1	1603.8	1591.3	1583.8	1563.8	1543.9	1523.9	1503.9	1488.9
20°	1618.6	1596.3	1576.3	1553.8	1543.9	1533.9	1508.9	1488.9	1469.1	1446.6	1431.6
22.5°	1563.8	1541.4	1513.9	1496.4	1481.6	1469.1	1446.6	1424.2	1404.2	1384.2	1364.3
25°	1496.4	1474.1	1449.1	1421.7	1411.7	1399.2	1374.2	1351.8	1329.3	1306.9	1289.5
27.5°	1424.2	1394.2	1374.2	1344.3	1334.3	1321.9	1294.5	1269.5	1249.5	1232.1	1212.1
30°	1336.8	1314.4	1287.0	1259.5	1249.5	1237.1	1214.6	1192.1	1172.3	1152.3	1132.3
32.5°	1242.1	1219.6	1192.1	1172.3	1157.3	1147.3	1124.8	1104.9	1084.9	1064.9	1047.6
35°	1142.3	1117.4	1097.4	1077.4	1064.9	1052.6	1030.1	1012.6	997.7	980.2	962.7
37.5°	1040.1	1022.6	1002.6	980.2	967.7	957.7	940.3	920.3	907.9	892.9	880.5
40°	940.3	920.3	902.9	882.9	873.0	865.5	848.0	833.0	820.5	808.1	800.6
42.5°	838.0	820.5	803.1	790.6	783.1	775.6	763.1	745.8	738.3	725.8	718.3
45°	743.3	728.3	715.8	698.3	693.4	688.4	673.4	660.9	653.4	645.9	640.9
47.5°	653.4	643.4	628.6	618.6	611.1	606.1	596.1	586.1	578.6	573.7	568.7
50°	576.2	563.7	553.7	543.7	538.7	531.2	521.2	516.2	511.3	506.3	506.3
52.5°	503.8	491.4	481.4	473.9	468.9	463.9	456.4	454.0	449.0	449.0	446.5
55°	436.5	429.0	419.0	409.0	406.5	404.0	399.0	394.1	391.6	389.1	391.6
57.5°	379.1	371.6	361.6	354.1	351.6	349.1	346.6	341.6	339.2	339.2	339.2
60°	326.8	319.3	311.8	304.3	304.3	299.3	296.8	294.3	291.8	289.3	289.3
62.5°	279.3	271.9	264.4	259.4	256.9	254.4	249.4	246.9	244.4	244.4	241.9
65°	236.9	226.9	224.4	216.9	214.4	212.1	209.6	204.6	202.1	199.6	197.1
67.5°	194.6	189.6	182.1	177.1	174.6	172.1	169.6	164.6	162.1	159.6	154.6
70°	157.1	152.1	147.2	142.2	139.7	137.2	132.2	127.2	124.7	119.7	112.2
72.5°	122.2	117.2	112.2	107.2	104.7	102.2	97.2	92.2	87.3	82.3	77.4
75°	92.2	87.3	79.8	74.9	72.4	72.4	64.9	59.9	54.9	47.4	42.4
77.5°	64.9	57.4	54.9	49.9	47.4	42.4	37.4	32.4	27.5	25.0	20.0
80°	42.4	37.4	32.4	30.0	27.5	25.0	22.5	17.5	12.5	10.0	7.5
82.5°	25.0	22.5	20.0	17.5	15.0	12.5	10.0	10.0	7.5	5.0	2.5
85°	12.5	10.0	7.5	7.5	5.0	5.0	5.0	2.5	2.5	2.5	2.5
87.5°	5.0	2.5	2.5	2.5	2.5	2.5	2.5	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6
2.5°	1661.1	1658.6	1656.1	1653.6	1653.6	1648.6	1648.6	1646.1	1641.1	1638.6	1638.6
5°	1646.1	1638.6	1633.6	1631.1	1628.6	1621.1	1618.6	1613.6	1608.8	1603.8	1601.3
7.5°	1623.6	1611.1	1606.3	1603.8	1596.3	1588.8	1583.8	1576.3	1568.8	1561.3	1558.8
10°	1596.3	1583.8	1571.3	1566.3	1558.8	1553.8	1543.9	1533.9	1526.4	1518.9	1511.4
12.5°	1561.3	1546.4	1533.9	1528.9	1521.4	1511.4	1496.4	1491.4	1479.1	1474.1	1464.1
15°	1521.4	1503.9	1491.4	1484.0	1476.6	1461.6	1451.6	1441.6	1429.1	1424.2	1414.2
17.5°	1471.6	1451.6	1439.1	1431.6	1426.7	1414.2	1399.2	1386.7	1374.2	1369.2	1361.8
20°	1411.7	1399.2	1381.7	1374.2	1369.2	1354.3	1339.3	1334.3	1324.4	1314.4	1306.9
22.5°	1344.3	1331.8	1314.4	1306.9	1304.5	1292.0	1279.5	1272.0	1264.5	1257.0	1249.5
25°	1274.5	1259.5	1244.6	1239.6	1234.6	1224.6	1214.6	1209.6	1202.1	1197.1	1192.1
27.5°	1199.6	1184.6	1172.3	1164.8	1159.8	1152.3	1147.3	1142.3	1137.3	1132.3	1129.8
30°	1119.9	1104.9	1094.9	1089.9	1084.9	1082.4	1074.9	1072.4	1069.9	1064.9	1067.4
32.5°	1040.1	1027.6	1017.6	1010.1	1010.1	1005.1	1002.6	1002.6	1000.2	1000.2	1000.2
35°	952.7	945.2	937.8	935.3	932.8	930.3	927.8	930.3	927.8	930.3	932.8
37.5°	873.0	865.5	860.5	858.0	855.5	858.0	855.5	855.5	858.0	863.0	865.5
40°	790.6	785.6	780.6	783.1	780.6	780.6	780.6	788.1	790.6	793.1	795.6
42.5°	713.3	708.3	705.8	705.8	708.3	705.8	710.8	713.3	718.3	725.8	730.8
45°	638.4	636.1	636.1	638.4	636.1	640.9	640.9	645.9	653.4	658.4	663.4
47.5°	568.7	568.7	568.7	571.2	571.2	573.7	578.6	581.1	586.1	591.1	596.1
50°	503.8	506.3	508.8	508.8	508.8	513.8	518.7	521.2	523.7	526.2	533.7
52.5°	446.5	449.0	449.0	451.5	454.0	456.4	458.9	463.9	466.4	471.4	473.9
55°	391.6	391.6	396.5	399.0	399.0	399.0	404.0	404.0	409.0	411.5	416.5
57.5°	339.2	341.6	341.6	344.1	344.1	346.6	349.1	351.6	354.1	356.6	359.1
60°	289.3	289.3	289.3	291.8	294.3	296.8	294.3	299.3	299.3	304.3	306.8
62.5°	241.9	244.4	244.4	244.4	244.4	244.4	244.4	246.9	249.4	251.9	254.4
65°	197.1	197.1	197.1	194.6	197.1	194.6	197.1	199.6	199.6	202.1	204.6
67.5°	152.1	152.1	147.2	147.2	149.7	149.7	149.7	149.7	147.2	152.1	152.1
70°	109.7	107.2	104.7	102.2	102.2	99.7	99.7	97.2	97.2	97.2	97.2
72.5°	72.4	67.4	62.4	59.9	57.4	57.4	52.4	49.9	52.4	52.4	52.4
75°	37.4	32.4	30.0	27.5	25.0	25.0	22.5	22.5	22.5	22.5	22.5
77.5°	15.0	12.5	10.0	10.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5
80°	5.0	5.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
82.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
85°	2.5	0.0	0.0	2.5	0.0	2.5	2.5	2.5	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: P584589

CATALOG NUMBER: HC840D010-HM82555927-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6	1668.6
2.5°	1636.1	1636.1	1633.6	1636.1	1631.1	1633.6	1631.1	1631.1
5°	1598.8	1593.8	1593.8	1593.8	1591.3	1591.3	1588.8	1588.8
7.5°	1553.8	1551.3	1548.8	1546.4	1543.9	1541.4	1541.4	1541.4
10°	1508.9	1503.9	1503.9	1501.4	1496.4	1493.9	1493.9	1493.9
12.5°	1456.6	1454.1	1451.6	1451.6	1441.6	1444.1	1441.6	1441.6
15°	1406.7	1404.2	1404.2	1396.7	1391.7	1391.7	1391.7	1389.2
17.5°	1354.3	1351.8	1349.3	1344.3	1339.3	1339.3	1336.8	1339.3
20°	1299.5	1297.0	1292.0	1292.0	1289.5	1287.0	1282.0	1284.5
22.5°	1244.6	1239.6	1237.1	1237.1	1234.6	1234.6	1229.6	1229.6
25°	1187.1	1184.6	1182.3	1184.6	1179.8	1179.8	1174.8	1174.8
27.5°	1127.3	1124.8	1124.8	1124.8	1122.4	1124.8	1122.4	1122.4
30°	1067.4	1067.4	1064.9	1064.9	1067.4	1064.9	1067.4	1069.9
32.5°	1002.6	1002.6	1005.1	1005.1	1007.6	1007.6	1007.6	1007.6
35°	935.3	940.3	940.3	942.7	945.2	947.7	947.7	950.2
37.5°	873.0	875.5	878.0	880.5	885.4	885.4	885.4	885.4
40°	805.6	808.1	813.1	810.6	820.5	823.0	820.5	820.5
42.5°	735.8	740.8	743.3	748.3	750.8	755.8	758.3	758.3
45°	670.9	673.4	678.4	683.4	685.9	693.4	693.4	693.4
47.5°	603.6	608.6	611.1	616.1	618.6	626.1	628.6	626.1
50°	538.7	543.7	548.7	548.7	556.2	558.7	563.7	566.2
52.5°	476.4	478.9	483.9	486.4	491.4	496.3	498.8	501.3
55°	416.5	419.0	424.0	424.0	431.5	434.0	439.0	439.0
57.5°	361.6	364.1	369.1	366.6	371.6	376.6	376.6	374.1
60°	309.3	309.3	309.3	314.3	316.8	319.3	321.8	321.8
62.5°	254.4	259.4	261.9	261.9	264.4	266.9	266.9	264.4
65°	204.6	209.6	212.1	212.1	214.4	214.4	214.4	216.9
67.5°	154.6	154.6	154.6	157.1	154.6	154.6	154.6	154.6
70°	97.2	97.2	97.2	97.2	94.7	97.2	97.2	99.7
72.5°	52.4	52.4	52.4	52.4	52.4	52.4	52.4	52.4
75°	22.5	22.5	22.5	25.0	22.5	22.5	22.5	22.5
77.5°	10.0	7.5	10.0	10.0	7.5	7.5	7.5	7.5
80°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
82.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
85°	0.0	2.5	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)