

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: P584250

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584250
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-16)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC830D010-HM82555827-81WWW
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3021.7 lumens
Efficiency: N/A
Efficacy: 107.9 lumens/watt
Spacing Criteria (0/90/45): 1.09 / 1.04 / 1.13
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

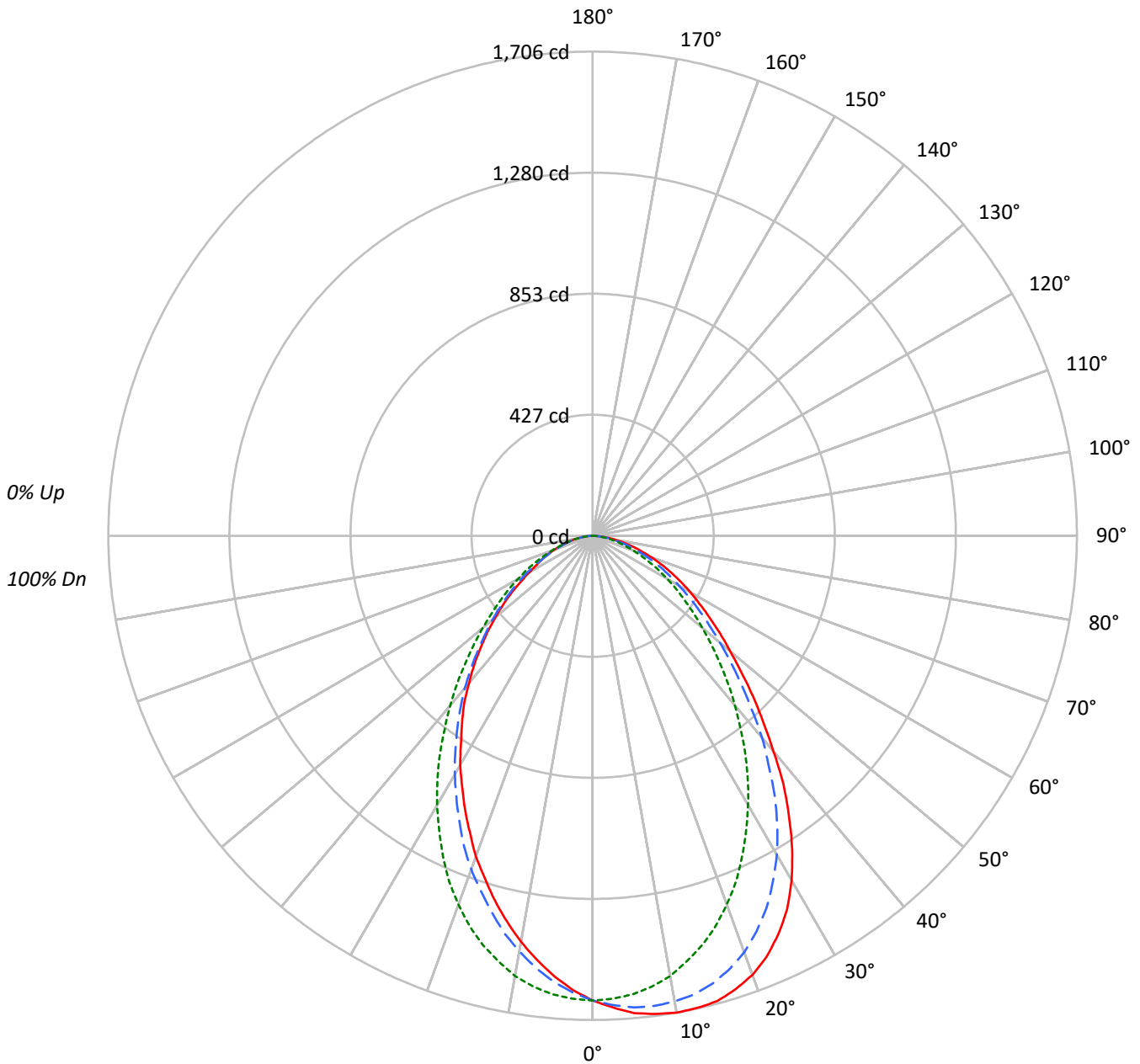
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	93	91	89	87																			
2	102	95	89	84	99	93	88	83	90	85	81	86	83	79	83	80	78	76																			
3	94	85	78	72	92	83	77	71	81	75	70	78	73	69	75	71	68	66																			
4	87	76	69	63	85	75	68	62	73	67	62	71	65	61	68	64	60	58																			
5	81	69	61	55	79	68	61	55	66	60	54	64	59	54	63	57	53	51																			
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46																			
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	41																			
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38																			
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34																			
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	50488	50488	50488
5°	52263	50198	48208
10°	53421	49320	45490
15°	54185	47659	42481
20°	54021	45347	39437
25°	52683	42404	36208
30°	49913	38996	33221
35°	45414	35291	30191
40°	39884	31386	27276
45°	34783	27609	24316
50°	30266	24193	21425
55°	26994	21263	18634
60°	24521	18631	15893
65°	22043	16206	14425
70°	19628	13821	13010
75°	17192	11640	11116
80°	14597	9465	9856
85°	11039	7076	7855



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.4	5.1
10°-20°	422.6	14.0
20°-30°	586.5	19.4
30°-40°	606.4	20.1
40°-50°	507.8	16.8
50°-60°	368.6	12.2
60°-70°	232.6	7.7
70°-80°	115.2	3.8
80°-90°	28.6	0.9
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°	1162.4	38.5
0°-40°	1768.8	58.5
0°-60°	2645.2	87.5
0°-90°	3021.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3021.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1637	1637	1637	1637	1637	
5°	1688	1668	1622	1577	1557	161
15°	1697	1633	1493	1373	1331	478
25°	1548	1448	1246	1111	1064	710
35°	1206	1117	938	831	802	751
45°	798	740	633	571	558	617
55°	502	458	396	362	347	453
65°	302	264	222	196	198	301
75°	144	120	98	93	93	155
85°	31	24	20	22	22	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°	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3
2.5°	1663.9	1663.9	1666.1	1663.9	1663.9	1663.9	1661.7	1661.7	1659.5	1659.5	1655.1
5°	1688.4	1684.0	1688.4	1684.0	1684.0	1684.0	1681.7	1677.3	1675.1	1670.7	1668.4
7.5°	1699.4	1697.3	1697.3	1695.0	1695.0	1692.8	1690.6	1688.4	1679.5	1677.3	1670.7
10°	1706.1	1704.0	1704.0	1701.7	1697.3	1697.3	1692.8	1690.6	1679.5	1675.1	1666.1
12.5°	1704.0	1704.0	1704.0	1701.7	1695.0	1692.8	1688.4	1681.7	1672.8	1663.9	1655.1
15°	1697.3	1697.3	1692.8	1690.6	1684.0	1679.5	1677.3	1666.1	1657.2	1646.2	1632.9
17.5°	1675.1	1675.1	1672.8	1668.4	1661.7	1657.2	1652.8	1641.8	1632.9	1615.0	1601.7
20°	1646.2	1643.9	1641.8	1635.1	1628.5	1626.2	1619.5	1604.0	1592.9	1579.5	1561.8
22.5°	1604.0	1601.7	1599.6	1595.0	1584.0	1579.5	1575.1	1564.0	1544.0	1530.6	1508.5
25°	1548.4	1548.4	1544.0	1537.3	1526.2	1521.8	1515.1	1504.0	1486.2	1466.3	1448.4
27.5°	1484.0	1481.7	1475.1	1470.7	1461.8	1455.1	1444.0	1430.7	1412.9	1397.3	1375.2
30°	1401.8	1401.8	1397.3	1390.7	1379.6	1375.2	1366.3	1350.7	1333.0	1312.9	1297.4
32.5°	1308.5	1308.5	1301.8	1297.4	1290.8	1279.6	1277.3	1259.6	1244.1	1228.5	1210.8
35°	1206.4	1208.5	1204.1	1195.2	1184.1	1184.1	1179.6	1164.1	1146.3	1130.7	1117.4
37.5°	1104.1	1097.4	1095.2	1090.8	1084.1	1075.2	1070.8	1064.2	1048.6	1037.5	1017.4
40°	990.8	993.1	988.5	984.1	981.9	975.2	973.1	961.9	950.8	937.5	928.6
42.5°	888.7	888.7	888.7	884.1	879.7	873.1	870.8	864.2	850.8	841.9	828.6
45°	797.6	790.9	790.9	788.7	786.4	782.0	775.3	770.8	762.0	755.4	739.8
47.5°	708.6	710.9	708.6	706.5	699.8	697.6	695.3	686.4	677.6	671.0	659.8
50°	630.9	635.4	630.9	630.9	626.5	624.2	619.8	613.2	606.5	595.3	584.3
52.5°	566.4	566.4	564.3	562.0	555.4	551.0	548.7	546.5	535.4	526.5	517.6
55°	502.1	504.3	504.3	497.6	495.5	490.9	488.8	482.0	477.6	464.3	457.6
57.5°	446.6	444.3	446.6	442.1	437.7	433.2	431.0	426.5	419.8	411.0	402.1
60°	397.6	393.2	393.2	390.9	386.5	384.3	379.9	373.2	366.6	357.7	351.0
62.5°	348.7	346.6	344.3	342.1	337.7	335.4	333.3	326.6	320.0	313.2	306.5
65°	302.1	302.1	299.9	295.5	293.2	291.1	288.8	284.4	275.5	271.0	264.3
67.5°	259.9	257.7	257.7	253.3	248.9	246.6	246.6	242.2	235.5	228.8	224.4
70°	217.7	220.0	217.7	215.4	211.0	211.0	206.6	204.4	195.5	193.3	186.6
72.5°	179.9	179.9	177.8	177.8	173.2	171.1	171.1	166.6	162.2	157.8	153.3
75°	144.3	144.3	144.3	142.2	139.9	135.5	135.5	133.3	128.9	124.4	120.0
77.5°	113.3	111.1	111.1	108.9	106.7	104.4	104.4	102.1	97.7	95.5	91.1
80°	82.2	80.0	80.0	80.0	75.5	77.8	75.5	73.4	71.1	68.8	66.7
82.5°	53.3	55.5	55.5	53.3	51.1	51.1	51.1	48.9	48.9	46.6	44.5
85°	31.2	31.2	31.2	31.2	28.9	28.9	28.9	26.6	26.6	26.6	24.5
87.5°	13.3	13.3	13.3	13.3	13.3	13.3	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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3
2.5°	1655.1	1650.6	1648.4	1646.2	1646.2	1643.9	1641.8	1637.3	1637.3	1632.9	1630.6
5°	1663.9	1657.2	1652.8	1648.4	1646.2	1641.8	1637.3	1630.6	1628.5	1621.7	1615.0
7.5°	1666.1	1655.1	1650.6	1641.8	1637.3	1632.9	1623.9	1617.3	1608.4	1601.7	1592.9
10°	1657.2	1648.4	1637.3	1626.2	1623.9	1617.3	1604.0	1595.0	1584.0	1575.1	1561.8
12.5°	1643.9	1630.6	1619.5	1606.2	1599.6	1592.9	1579.5	1566.2	1550.7	1535.1	1521.8
15°	1621.7	1606.2	1590.6	1575.1	1566.2	1559.5	1544.0	1528.5	1512.9	1492.9	1479.6
17.5°	1588.4	1570.7	1555.1	1535.1	1526.2	1519.5	1499.6	1481.7	1461.8	1441.8	1428.5
20°	1546.2	1523.9	1506.2	1484.0	1477.3	1466.3	1446.2	1426.2	1404.0	1381.9	1366.3
22.5°	1490.6	1468.4	1448.4	1426.2	1415.1	1404.0	1384.0	1359.6	1337.4	1319.6	1304.1
25°	1426.2	1406.2	1381.9	1361.8	1348.4	1335.1	1312.9	1292.9	1272.9	1246.3	1230.7
27.5°	1355.1	1330.7	1312.9	1286.3	1272.9	1264.0	1239.7	1213.0	1195.2	1170.8	1153.0
30°	1275.2	1253.0	1233.0	1206.4	1192.9	1184.1	1161.9	1137.4	1119.7	1095.2	1077.5
32.5°	1190.8	1166.3	1141.9	1124.1	1108.5	1099.7	1075.2	1059.6	1037.5	1017.4	997.5
35°	1099.7	1075.2	1057.5	1033.0	1024.1	1015.3	995.3	975.2	955.2	937.5	922.0
37.5°	1002.0	984.1	964.2	946.3	939.7	930.9	906.4	888.7	873.1	855.2	841.9
40°	906.4	890.8	877.5	859.8	848.6	841.9	824.2	808.6	790.9	779.7	766.4
42.5°	819.7	802.0	788.7	775.3	764.2	757.5	742.1	730.9	717.6	706.5	690.9
45°	728.6	719.8	704.2	693.1	686.4	677.6	666.4	653.1	642.1	633.1	622.1
47.5°	648.7	639.8	628.7	615.4	610.9	604.2	593.2	584.3	575.4	566.4	555.4
50°	575.4	564.3	555.4	546.5	542.1	535.4	524.2	519.8	513.2	504.3	497.6
52.5°	508.8	499.9	490.9	479.9	477.6	473.2	466.6	457.6	451.0	446.6	442.1
55°	448.7	439.8	433.2	424.4	422.1	417.7	408.8	404.4	399.9	395.5	390.9
57.5°	395.5	386.5	377.6	373.2	368.8	364.3	362.2	355.4	351.0	348.7	344.3
60°	346.6	337.7	331.0	324.4	322.1	320.0	315.4	311.0	306.5	302.1	299.9
62.5°	299.9	291.1	286.5	282.1	277.8	277.8	273.2	268.8	264.3	262.2	257.7
65°	257.7	253.3	246.6	239.9	237.7	237.7	231.0	228.8	226.6	222.1	217.7
67.5°	217.7	213.3	206.6	204.4	202.1	200.0	197.7	193.3	188.8	186.6	182.2
70°	182.2	177.8	173.2	171.1	168.8	166.6	162.2	159.9	155.5	153.3	151.1
72.5°	146.6	144.3	139.9	137.7	135.5	133.3	131.0	128.9	124.4	122.2	120.0
75°	117.7	115.6	111.1	108.9	106.7	106.7	104.4	100.0	97.7	97.7	95.5
77.5°	88.8	86.7	84.4	82.2	80.0	80.0	77.8	75.5	73.4	73.4	71.1
80°	64.4	62.2	59.9	59.9	59.9	57.8	55.5	55.5	53.3	53.3	51.1
82.5°	42.2	42.2	40.0	40.0	40.0	37.8	37.8	35.6	35.6	35.6	35.6
85°	24.5	24.5	24.5	22.2	22.2	22.2	22.2	22.2	22.2	20.0	22.2
87.5°	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	8.9	8.9	8.9
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°	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3
2.5°	1628.5	1626.2	1621.7	1621.7	1617.3	1617.3	1615.0	1612.9	1610.6	1608.4	1606.2
5°	1612.9	1604.0	1599.6	1597.3	1592.9	1590.6	1584.0	1579.5	1577.3	1572.8	1568.4
7.5°	1584.0	1575.1	1566.2	1564.0	1561.8	1552.8	1546.2	1539.5	1535.1	1530.6	1526.2
10°	1550.7	1541.8	1530.6	1526.2	1521.8	1510.6	1501.8	1495.0	1486.2	1477.3	1475.1
12.5°	1510.6	1497.3	1484.0	1479.6	1472.9	1461.8	1452.8	1441.8	1435.1	1424.1	1421.8
15°	1464.0	1448.4	1437.4	1426.2	1421.8	1410.6	1395.2	1386.3	1372.9	1368.4	1357.4
17.5°	1408.5	1392.9	1377.3	1372.9	1366.3	1350.7	1335.1	1324.1	1310.8	1304.1	1297.4
20°	1350.7	1330.7	1315.2	1310.8	1301.8	1288.5	1272.9	1261.9	1250.7	1237.4	1230.7
22.5°	1284.0	1261.9	1248.6	1237.4	1235.1	1219.7	1201.8	1192.9	1184.1	1172.9	1164.1
25°	1210.8	1190.8	1175.2	1166.3	1161.9	1148.6	1135.3	1124.1	1110.8	1104.1	1093.0
27.5°	1135.3	1121.9	1101.8	1093.0	1086.4	1075.2	1059.6	1053.0	1039.7	1030.7	1024.1
30°	1061.9	1041.9	1030.7	1019.7	1013.0	1002.0	988.5	981.9	970.8	961.9	955.2
32.5°	981.9	968.6	953.1	948.6	939.7	928.6	919.7	908.6	899.7	890.8	888.7
35°	908.6	890.8	875.3	870.8	864.2	853.1	848.6	841.9	830.9	828.6	819.7
37.5°	828.6	819.7	802.0	795.3	793.1	784.3	775.3	770.8	764.2	757.5	755.4
40°	753.1	742.1	733.1	726.5	722.0	715.3	706.5	704.2	699.8	690.9	688.7
42.5°	682.0	671.0	662.0	659.8	653.1	646.5	642.1	635.4	633.1	630.9	626.5
45°	613.2	606.5	597.6	595.3	593.2	584.3	579.9	575.4	571.0	568.7	564.3
47.5°	551.0	544.3	537.7	535.4	531.0	528.7	522.1	519.8	513.2	510.9	508.8
50°	490.9	486.5	482.0	479.9	475.4	473.2	468.7	464.3	459.9	457.6	455.4
52.5°	437.7	433.2	428.8	426.5	424.4	419.8	415.4	411.0	408.8	406.5	404.4
55°	386.5	382.1	379.9	377.6	375.5	373.2	366.6	364.3	362.2	359.9	355.4
57.5°	339.9	335.4	331.0	331.0	328.8	326.6	322.1	317.7	317.7	313.2	308.8
60°	297.7	293.2	288.8	286.5	284.4	279.9	277.8	275.5	273.2	271.0	266.6
62.5°	253.3	251.0	246.6	246.6	242.2	239.9	237.7	235.5	233.3	228.8	226.6
65°	215.4	213.3	208.8	206.6	206.6	204.4	200.0	197.7	195.5	195.5	193.3
67.5°	179.9	177.8	173.2	171.1	171.1	168.8	166.6	166.6	164.4	162.2	164.4
70°	148.9	144.3	144.3	142.2	142.2	139.9	137.7	137.7	137.7	139.9	139.9
72.5°	117.7	115.6	113.3	113.3	113.3	113.3	111.1	111.1	113.3	115.6	115.6
75°	93.3	91.1	91.1	91.1	88.8	88.8	91.1	91.1	93.3	93.3	93.3
77.5°	68.8	68.8	68.8	68.8	68.8	68.8	71.1	71.1	73.4	73.4	73.4
80°	51.1	51.1	51.1	51.1	51.1	53.3	53.3	53.3	53.3	53.3	55.5
82.5°	35.6	35.6	35.6	35.6	35.6	35.6	35.6	37.8	37.8	37.8	37.8
85°	20.0	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2
87.5°	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
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: P584250

CATALOG NUMBER: HC830D010-HM82555827-81WWW

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3	1637.3
2.5°	1604.0	1604.0	1604.0	1606.2	1601.7	1601.7	1601.7	1601.7
5°	1566.2	1564.0	1561.8	1564.0	1559.5	1559.5	1557.4	1557.4
7.5°	1519.5	1517.3	1515.1	1515.1	1510.6	1510.6	1508.5	1506.2
10°	1468.4	1464.0	1466.3	1461.8	1459.6	1457.4	1455.1	1452.8
12.5°	1412.9	1408.5	1406.2	1401.8	1397.3	1395.2	1397.3	1392.9
15°	1353.0	1346.3	1344.0	1339.6	1335.1	1333.0	1333.0	1330.7
17.5°	1286.3	1281.9	1279.6	1275.2	1272.9	1268.5	1266.3	1264.0
20°	1224.1	1213.0	1215.2	1210.8	1208.5	1199.6	1199.6	1201.8
22.5°	1155.2	1148.6	1144.1	1139.7	1137.4	1133.0	1133.0	1130.7
25°	1086.4	1079.7	1077.5	1073.0	1070.8	1066.3	1064.2	1064.2
27.5°	1019.7	1010.8	1010.8	1006.4	1002.0	999.7	997.5	995.3
30°	948.6	941.9	939.7	939.7	937.5	937.5	930.9	933.0
32.5°	882.0	877.5	875.3	870.8	870.8	868.7	868.7	861.9
35°	815.3	808.6	810.9	806.4	804.2	802.0	804.2	802.0
37.5°	750.9	746.5	746.5	742.1	742.1	739.8	737.5	742.1
40°	686.4	684.3	682.0	679.8	682.0	679.8	675.4	677.6
42.5°	622.1	622.1	619.8	619.8	617.6	617.6	617.6	617.6
45°	564.3	562.0	562.0	559.8	559.8	559.8	559.8	557.6
47.5°	506.5	504.3	504.3	504.3	502.1	502.1	499.9	502.1
50°	451.0	451.0	448.7	448.7	451.0	448.7	446.6	446.6
52.5°	399.9	399.9	397.6	397.6	395.5	393.2	395.5	395.5
55°	353.3	351.0	348.7	348.7	346.6	344.3	344.3	346.6
57.5°	308.8	306.5	304.4	304.4	299.9	297.7	297.7	297.7
60°	266.6	262.2	262.2	259.9	259.9	257.7	257.7	257.7
62.5°	226.6	224.4	224.4	224.4	224.4	222.1	222.1	222.1
65°	193.3	193.3	193.3	195.5	195.5	197.7	197.7	197.7
67.5°	166.6	168.8	168.8	168.8	171.1	171.1	171.1	168.8
70°	142.2	142.2	142.2	144.3	144.3	144.3	144.3	144.3
72.5°	117.7	117.7	117.7	117.7	117.7	117.7	117.7	117.7
75°	93.3	95.5	95.5	95.5	93.3	95.5	95.5	93.3
77.5°	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4
80°	55.5	55.5	55.5	55.5	55.5	55.5	55.5	55.5
82.5°	37.8	37.8	37.8	37.8	37.8	37.8	37.8	37.8
85°	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2
87.5°	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
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)