

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: P584072

Luminaire Tested: **HC820D010-HM80520935-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584072
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-14)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC820D010-HM80520935-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1968.5 lumens
Efficiency: N/A
Efficacy: 98.4 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.08 / 1.17
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

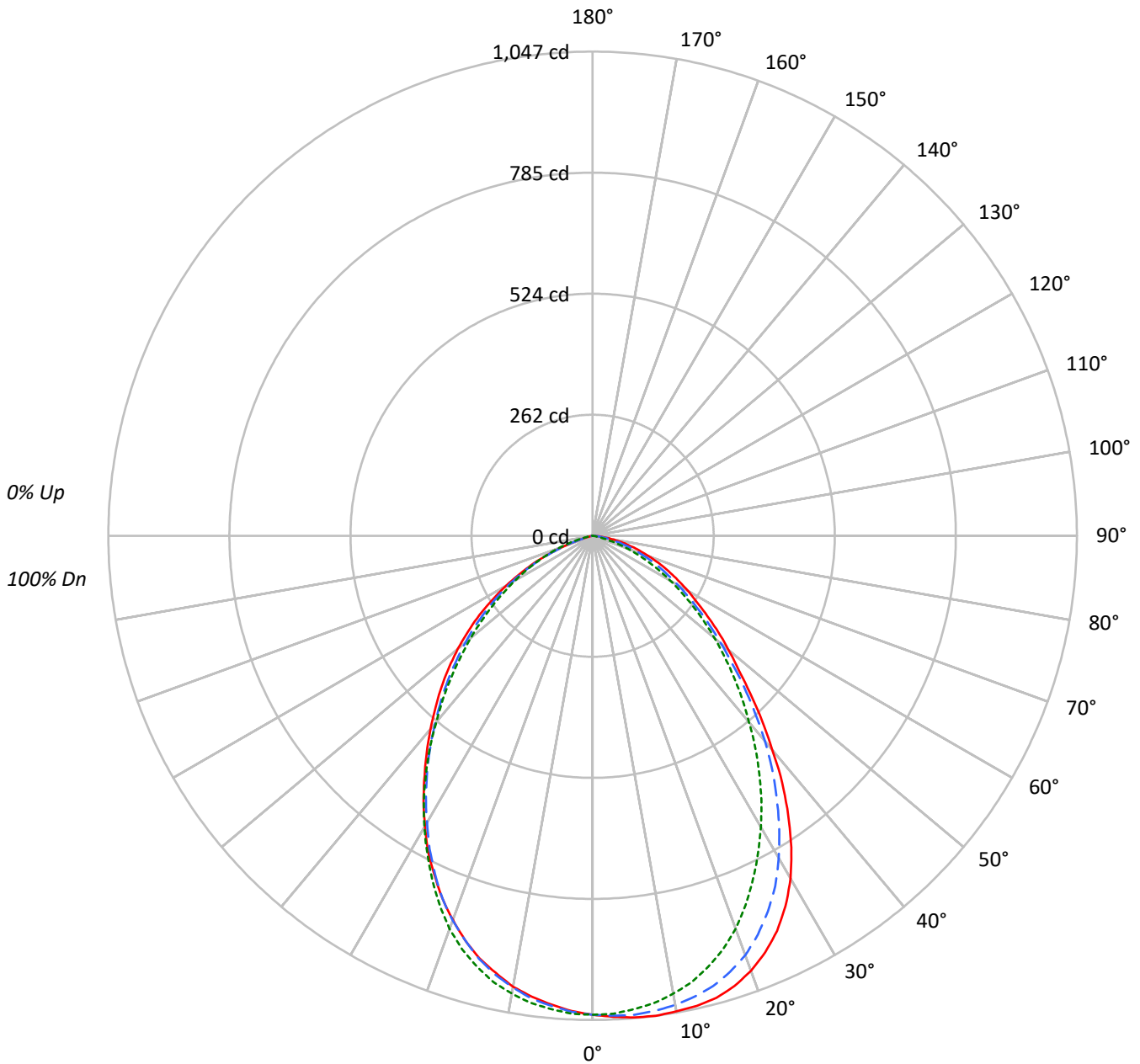
Input Watts (W): 20
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P584072

CATALOG NUMBER: HC820D010-HM80520935-81RWWC

Luminous Intensity Polar Plot





TEST NUMBER: P584072

CATALOG NUMBER: HC820D010-HM80520935-81RWWC

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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88								
2	103	96	90	85	100	94	89	84	91	86	82	87	84	81	85	82	79	77								
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67								
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59								
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52								
6	76	64	56	50	74	63	55	50	61	55	50	60	54	49	58	53	49	47								
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42								
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38								
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35								
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	31940	31940	31940
5°	32363	31805	31505
10°	32693	31481	31005
15°	33022	30813	30194
20°	32855	29675	28999
25°	32088	27903	27526
30°	30479	25900	25804
35°	27748	23637	23840
40°	24329	21153	21934
45°	20985	18813	20143
50°	18378	16517	18239
55°	16279	14204	16059
60°	14666	11940	13303
65°	13221	9580	10193
70°	11594	6978	5608
75°	9889	3622	1477
80°	7618	994	249
85°	4883	0	0



TEST NUMBER: P584072

CATALOG NUMBER: HC820D010-HM80520935-81RWWC

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.7	5.0
10°-20°	274.7	14.0
20°-30°	389.9	19.8
30°-40°	410.5	20.9
40°-50°	349.2	17.7
50°-60°	252.3	12.8
60°-70°	143.5	7.3
70°-80°	45.2	2.3
80°-90°	5.5	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°	762.4	38.7
0°-40°	1172.8	59.6
0°-60°	1774.3	90.1
0°-90°	1968.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1968.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1036	1036	1036	1036	1036	
5°	1046	1040	1028	1020	1018	100
15°	1034	1008	965	947	946	291
25°	943	896	820	806	809	432
35°	737	694	628	624	633	459
45°	481	463	431	442	462	374
55°	303	281	264	279	299	273
65°	181	156	131	130	140	180
75°	83	64	30	14	12	89
85°	14	8	0	0	0	18
90°	0	0	0	0	0	



TEST NUMBER: P584072

CATALOG NUMBER: HC820D010-HM80520935-81RWWC

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8
2.5°	1041.3	1042.6	1039.9	1039.9	1042.6	1039.9	1041.3	1041.3	1039.9	1039.9	1038.5
5°	1045.5	1044.1	1044.1	1044.1	1045.5	1042.6	1041.3	1042.6	1039.9	1039.9	1039.9
7.5°	1046.9	1046.9	1045.5	1044.1	1044.1	1044.1	1042.6	1041.3	1039.9	1037.2	1035.8
10°	1044.1	1044.1	1045.5	1042.6	1042.6	1039.9	1039.9	1037.2	1037.2	1034.4	1030.2
12.5°	1041.3	1039.9	1039.9	1037.2	1037.2	1034.4	1034.4	1030.2	1028.8	1024.7	1020.5
15°	1034.4	1033.1	1030.2	1028.8	1027.5	1026.1	1023.4	1022.0	1017.8	1012.3	1008.1
17.5°	1020.5	1019.2	1017.8	1015.0	1012.3	1010.8	1009.5	1005.4	999.9	995.7	988.7
20°	1001.2	999.9	999.9	995.7	994.3	990.2	988.7	983.2	979.1	970.8	965.2
22.5°	974.9	976.3	973.5	970.8	968.1	963.9	961.1	955.5	948.7	940.4	933.4
25°	943.1	944.5	941.7	939.0	934.8	932.0	929.3	921.0	914.0	904.3	896.1
27.5°	903.0	903.0	903.0	900.2	893.4	891.9	889.2	880.9	871.3	862.9	854.6
30°	856.0	854.6	854.6	850.4	847.7	842.2	838.0	831.1	824.2	814.5	804.8
32.5°	799.3	800.7	796.5	793.8	789.6	789.6	784.1	778.6	770.3	760.6	750.9
35°	737.1	738.5	735.7	734.3	727.4	726.0	724.7	717.7	712.2	705.3	694.2
37.5°	673.5	672.1	670.7	670.7	666.5	663.8	661.0	656.8	648.6	643.0	637.5
40°	604.4	604.4	604.4	602.9	601.5	598.8	597.4	594.7	589.1	583.6	579.4
42.5°	542.1	542.1	540.8	539.3	536.5	537.9	535.2	532.4	526.9	522.7	520.0
45°	481.2	481.2	481.2	482.6	479.9	475.8	475.8	472.9	470.2	467.4	463.2
47.5°	427.3	431.4	428.7	427.3	428.7	423.2	423.2	420.4	417.6	414.9	409.3
50°	383.1	383.1	383.1	380.2	378.9	378.9	374.8	372.0	370.6	367.8	362.3
52.5°	342.9	340.2	340.2	338.8	337.5	334.6	334.6	331.9	326.4	323.6	319.5
55°	302.8	302.8	301.4	300.1	298.7	297.3	296.0	291.8	289.0	284.9	280.7
57.5°	266.9	269.6	268.3	265.5	262.8	262.8	260.0	257.2	253.1	248.9	244.8
60°	237.8	236.5	236.5	235.1	232.4	231.0	229.5	225.4	221.3	217.1	213.0
62.5°	207.4	207.4	207.4	204.7	201.9	200.5	199.2	196.3	190.9	186.6	183.9
65°	181.2	179.8	178.4	177.1	175.6	172.8	171.5	168.7	164.5	160.4	156.3
67.5°	154.8	153.5	153.5	152.1	148.0	146.6	146.6	142.4	138.3	134.2	130.0
70°	128.6	128.6	128.6	125.9	124.5	123.0	121.7	118.9	114.8	110.6	106.5
72.5°	106.5	105.1	105.1	103.7	99.5	98.2	96.8	94.1	89.8	87.1	84.4
75°	83.0	83.0	81.6	80.3	78.8	77.4	76.0	73.3	69.1	65.0	63.6
77.5°	63.6	62.2	62.2	60.9	58.0	56.7	56.7	53.9	49.8	47.0	44.2
80°	42.9	44.2	42.9	41.5	40.1	38.8	37.4	35.9	33.2	30.4	27.7
82.5°	26.2	27.7	26.2	26.2	24.9	23.5	23.5	20.7	19.4	18.0	16.5
85°	13.8	13.8	13.8	13.8	12.4	12.4	12.4	11.1	9.7	8.3	8.3
87.5°	4.1	5.6	4.1	4.1	4.1	4.1	4.1	4.1	2.7	2.7	2.7
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: P584072

CATALOG NUMBER: HC820D010-HM80520935-81RWWC

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8
2.5°	1039.9	1038.5	1037.2	1037.2	1037.2	1037.2	1037.2	1035.8	1034.4	1034.4	1034.4
5°	1037.2	1037.2	1037.2	1035.8	1034.4	1034.4	1031.6	1030.2	1028.8	1027.5	1026.1
7.5°	1034.4	1031.6	1030.2	1028.8	1027.5	1027.5	1024.7	1022.0	1022.0	1019.2	1016.4
10°	1026.1	1024.7	1022.0	1019.2	1017.8	1016.4	1013.7	1009.5	1008.1	1005.4	1002.6
12.5°	1016.4	1013.7	1010.8	1005.4	1004.0	1002.6	997.0	992.9	990.2	988.7	981.9
15°	1004.0	998.4	994.3	987.3	986.0	983.2	979.1	974.9	969.4	965.2	962.5
17.5°	981.9	976.3	969.4	962.5	959.7	959.7	952.8	947.3	940.4	937.6	932.0
20°	955.5	948.7	943.1	934.8	930.7	926.6	922.4	914.0	908.6	904.3	897.5
22.5°	925.2	915.5	908.6	900.2	893.4	889.2	882.2	875.4	868.4	864.3	858.7
25°	886.4	878.1	867.1	858.7	854.6	849.1	840.8	833.9	826.9	820.1	817.2
27.5°	843.6	832.5	822.8	813.1	809.0	804.8	795.1	786.9	781.3	774.4	771.6
30°	796.5	785.4	774.4	766.2	761.9	755.1	749.5	739.8	733.0	727.4	720.4
32.5°	742.7	734.3	724.7	712.2	709.4	703.9	695.6	691.5	683.2	678.9	673.5
35°	684.5	678.9	669.4	659.7	655.5	652.7	645.8	637.5	632.0	627.9	625.0
37.5°	629.2	622.3	612.6	605.7	602.9	598.8	590.5	586.4	580.8	578.0	572.6
40°	569.7	562.9	555.9	551.8	547.6	544.9	539.3	535.2	529.7	525.5	524.1
42.5°	511.7	507.6	502.0	496.4	495.0	490.9	488.2	484.0	479.9	478.5	474.3
45°	459.1	455.0	449.4	444.0	442.5	439.7	438.4	434.3	431.4	431.4	431.4
47.5°	406.6	402.5	396.9	394.1	395.5	389.9	389.9	388.6	385.8	385.8	387.2
50°	359.6	354.0	352.6	349.9	347.2	344.3	345.7	341.6	341.6	344.3	342.9
52.5°	315.2	309.8	308.4	305.7	304.2	304.2	302.8	302.8	301.4	302.8	302.8
55°	275.2	271.0	268.3	265.5	264.2	264.2	264.2	262.8	261.3	264.2	265.5
57.5°	239.2	237.8	235.1	231.0	229.5	228.1	226.8	226.8	226.8	226.8	228.1
60°	207.4	204.7	201.9	197.7	197.7	196.3	195.0	193.6	193.6	193.6	193.6
62.5°	179.8	175.6	171.5	168.7	167.4	166.0	164.5	161.8	161.8	161.8	161.8
65°	152.1	148.0	145.1	142.4	139.7	139.7	136.9	135.6	132.7	131.3	128.6
67.5°	125.9	123.0	120.3	116.2	114.8	113.4	110.6	109.2	105.1	103.7	102.4
70°	102.4	98.2	95.4	92.7	91.3	88.5	85.7	83.0	80.3	77.4	74.7
72.5°	80.3	76.0	73.3	70.6	67.7	67.7	63.6	60.9	56.7	53.9	49.8
75°	59.5	55.3	52.6	48.3	47.0	45.6	41.5	38.8	34.5	30.4	27.7
77.5°	40.1	37.4	34.5	30.4	27.7	27.7	23.5	20.7	18.0	13.8	12.4
80°	24.9	22.1	19.4	16.5	16.5	13.8	12.4	9.7	6.9	5.6	4.1
82.5°	13.8	12.4	11.1	8.3	8.3	6.9	5.6	4.1	2.7	1.4	1.4
85°	6.9	5.6	4.1	4.1	2.7	2.7	2.7	1.4	1.4	0.0	0.0
87.5°	2.7	1.4	1.4	1.4	1.4	1.4	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: P584072

CATALOG NUMBER: HC820D010-HM80520935-81RWWC

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8
2.5°	1033.1	1033.1	1031.6	1031.6	1031.6	1030.2	1031.6	1030.2	1030.2	1030.2	1031.6
5°	1027.5	1024.7	1024.7	1023.4	1023.4	1022.0	1023.4	1022.0	1020.5	1019.2	1020.5
7.5°	1016.4	1013.7	1012.3	1010.8	1010.8	1010.8	1009.5	1008.1	1009.5	1005.4	1008.1
10°	1001.2	999.9	997.0	995.7	994.3	995.7	994.3	991.6	991.6	991.6	990.2
12.5°	981.9	979.1	977.8	976.3	973.5	973.5	974.9	972.2	972.2	969.4	969.4
15°	958.4	955.5	952.8	952.8	950.1	950.1	948.7	948.7	947.3	945.8	945.8
17.5°	929.3	925.2	922.4	923.7	922.4	921.0	921.0	918.2	916.9	918.2	918.2
20°	894.8	891.9	889.2	890.5	887.8	886.4	887.8	883.7	885.1	885.1	885.1
22.5°	856.0	854.6	850.4	850.4	847.7	846.3	847.7	847.7	849.1	847.7	847.7
25°	813.1	810.4	807.7	807.7	806.2	804.8	806.2	807.7	806.2	807.7	807.7
27.5°	767.5	763.3	763.3	760.6	760.6	761.9	760.6	761.9	763.3	763.3	766.2
30°	717.7	716.3	715.0	713.6	713.6	715.0	715.0	715.0	716.3	719.1	719.1
32.5°	670.7	667.9	665.1	665.1	667.9	666.5	667.9	667.9	670.7	670.7	673.5
35°	619.5	619.5	616.8	618.2	618.2	618.2	618.2	620.9	623.6	625.0	627.9
37.5°	572.6	568.4	569.7	569.7	571.1	569.7	573.9	573.9	576.7	576.7	579.4
40°	521.4	521.4	522.7	521.4	522.7	522.7	525.5	528.2	529.7	532.4	533.8
42.5°	472.9	475.8	472.9	474.3	475.8	477.1	478.5	479.9	485.4	488.2	492.3
45°	428.7	430.1	431.4	432.8	431.4	434.3	435.6	438.4	442.5	444.0	445.3
47.5°	385.8	387.2	388.6	389.9	389.9	392.8	394.1	396.9	399.6	401.1	402.5
50°	344.3	347.2	348.5	348.5	349.9	352.6	355.4	355.4	358.1	362.3	363.7
52.5°	307.0	307.0	309.8	311.1	312.5	312.5	316.7	318.1	319.5	322.2	324.9
55°	265.5	269.6	271.0	271.0	273.9	276.6	278.0	279.3	279.3	284.9	284.9
57.5°	229.5	231.0	233.7	233.7	233.7	237.8	237.8	240.7	242.0	243.4	246.2
60°	193.6	196.3	196.3	197.7	196.3	199.2	200.5	203.3	204.7	206.0	207.4
62.5°	160.4	160.4	161.8	161.8	161.8	161.8	164.5	164.5	167.4	168.7	170.1
65°	128.6	128.6	128.6	128.6	128.6	128.6	128.6	128.6	130.0	130.0	132.7
67.5°	99.5	98.2	95.4	96.8	95.4	95.4	94.1	94.1	95.4	95.4	98.2
70°	71.9	70.6	67.7	67.7	66.4	65.0	63.6	62.2	60.9	60.9	60.9
72.5°	47.0	44.2	40.1	38.8	38.8	35.9	33.2	31.8	31.8	31.8	31.8
75°	23.5	20.7	18.0	16.5	16.5	13.8	15.2	13.8	13.8	13.8	13.8
77.5°	9.7	6.9	5.6	5.6	5.6	4.1	4.1	4.1	4.1	4.1	4.1
80°	2.7	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	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	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: P584072

CATALOG NUMBER: HC820D010-HM80520935-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8
2.5°	1030.2	1030.2	1027.5	1028.8	1028.8	1028.8	1028.8	1028.8
5°	1017.8	1019.2	1017.8	1019.2	1019.2	1017.8	1017.8	1017.8
7.5°	1005.4	1006.7	1005.4	1006.7	1006.7	1006.7	1005.4	1005.4
10°	990.2	990.2	990.2	990.2	990.2	988.7	990.2	990.2
12.5°	969.4	969.4	969.4	970.8	970.8	969.4	969.4	968.1
15°	947.3	944.5	945.8	947.3	945.8	945.8	945.8	945.8
17.5°	916.9	918.2	916.9	916.9	916.9	916.9	918.2	916.9
20°	885.1	885.1	886.4	885.1	885.1	885.1	885.1	883.7
22.5°	849.1	847.7	847.7	849.1	849.1	847.7	849.1	849.1
25°	809.0	810.4	809.0	809.0	810.4	810.4	810.4	809.0
27.5°	766.2	767.5	768.9	767.5	767.5	767.5	768.9	770.3
30°	721.8	724.7	721.8	721.8	724.7	723.3	724.7	724.7
32.5°	674.8	678.9	676.2	678.9	678.9	680.4	678.9	680.4
35°	627.9	632.0	632.0	632.0	633.3	634.7	634.7	633.3
37.5°	583.6	585.0	585.0	587.7	589.1	590.5	590.5	589.1
40°	537.9	540.8	542.1	542.1	542.1	544.9	547.6	544.9
42.5°	493.7	495.0	496.4	496.4	499.3	500.6	502.0	502.0
45°	450.8	453.5	455.0	456.4	457.8	460.5	459.1	461.9
47.5°	406.6	410.7	412.0	413.5	416.3	417.6	419.0	420.4
50°	366.4	369.3	369.3	372.0	376.1	376.1	378.9	380.2
52.5°	326.4	327.8	329.1	330.5	333.3	336.0	336.0	338.8
55°	287.6	289.0	289.0	290.4	291.8	297.3	298.7	298.7
57.5°	247.5	247.5	250.3	251.6	253.1	255.8	255.8	255.8
60°	208.9	210.2	210.2	211.6	213.0	215.7	217.1	215.7
62.5°	170.1	171.5	171.5	172.8	175.6	177.1	175.6	175.6
65°	134.2	135.6	135.6	136.9	139.7	139.7	138.3	139.7
67.5°	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2
70°	62.2	60.9	59.5	60.9	60.9	60.9	59.5	62.2
72.5°	30.4	31.8	31.8	31.8	31.8	31.8	31.8	30.4
75°	13.8	13.8	12.4	12.4	12.4	13.8	13.8	12.4
77.5°	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
80°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	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)