

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: P575619

Luminaire Tested: **HC820D010-HM80520835-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P575619
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-HM80520835-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2145.0 lumens
Efficiency: N/A
Efficacy: 107.2 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

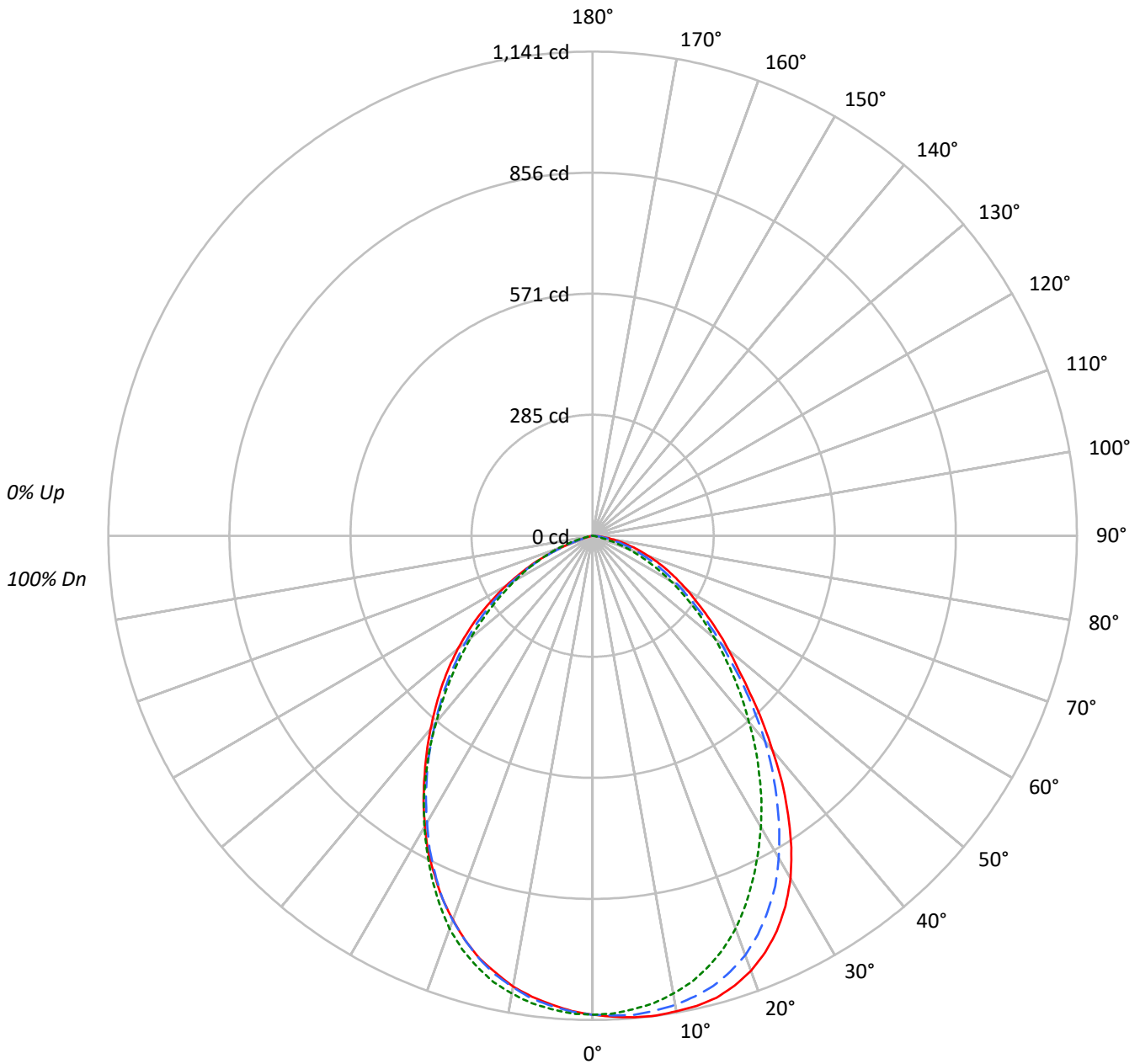
Input Watts (W): 20
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	34802	34802	34802
5°	35260	34656	34328
10°	35624	34302	33783
15°	35978	33575	32904
20°	35802	32336	31598
25°	34963	30404	29992
30°	33210	28218	28115
35°	30236	25752	25982
40°	26507	23049	23899
45°	22864	20501	21948
50°	20024	17999	19880
55°	17741	15473	17499
60°	15986	13013	14499
65°	14403	10441	11105
70°	12640	7609	6113
75°	10770	3944	1620
80°	8293	1065	266
85°	5307	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.5	5.0
10°-20°	299.3	14.0
20°-30°	424.9	19.8
30°-40°	447.2	20.9
40°-50°	380.5	17.7
50°-60°	274.9	12.8
60°-70°	156.4	7.3
70°-80°	49.3	2.3
80°-90°	6.0	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°	830.7	38.7
0°-40°	1277.9	59.6
0°-60°	1933.3	90.1
0°-90°	2145.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2145.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1129	1129	1129	1129	1129	
5°	1139	1133	1120	1112	1109	109
15°	1127	1098	1052	1032	1031	317
25°	1028	976	894	878	882	471
35°	803	756	684	680	690	500
45°	524	505	470	482	503	408
55°	330	306	288	304	326	298
65°	197	170	143	142	152	196
75°	90	69	33	15	14	97
85°	15	9	0	0	0	19
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°	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6
2.5°	1134.6	1136.1	1133.1	1133.1	1136.1	1133.1	1134.6	1134.6	1133.1	1133.1	1131.6
5°	1139.1	1137.7	1137.7	1137.7	1139.1	1136.1	1134.6	1136.1	1133.1	1133.1	1133.1
7.5°	1140.6	1140.6	1139.1	1137.7	1137.7	1137.7	1136.1	1134.6	1133.1	1130.1	1128.6
10°	1137.7	1137.7	1139.1	1136.1	1136.1	1133.1	1133.1	1130.1	1130.1	1127.0	1122.5
12.5°	1134.6	1133.1	1133.1	1130.1	1130.1	1127.0	1127.0	1122.5	1121.0	1116.5	1112.0
15°	1127.0	1125.6	1122.5	1121.0	1119.6	1118.1	1115.0	1113.6	1109.0	1102.9	1098.4
17.5°	1112.0	1110.5	1109.0	1106.0	1102.9	1101.5	1100.0	1095.5	1089.4	1085.0	1077.4
20°	1091.0	1089.4	1089.4	1085.0	1083.4	1078.9	1077.4	1071.4	1066.9	1057.8	1051.7
22.5°	1062.3	1063.8	1060.8	1057.8	1054.8	1050.2	1047.3	1041.2	1033.7	1024.7	1017.1
25°	1027.6	1029.2	1026.1	1023.1	1018.6	1015.6	1012.6	1003.5	996.0	985.4	976.5
27.5°	983.9	983.9	983.9	980.9	973.4	971.8	968.9	959.8	949.3	940.3	931.2
30°	932.7	931.2	931.2	926.7	923.6	917.6	913.1	905.6	898.1	887.6	876.9
32.5°	870.9	872.4	867.9	864.9	860.4	860.4	854.3	848.3	839.3	828.7	818.2
35°	803.2	804.6	801.6	800.1	792.5	791.1	789.6	782.0	776.0	768.4	756.4
37.5°	733.8	732.2	730.8	730.8	726.3	723.3	720.3	715.7	706.7	700.7	694.7
40°	658.5	658.5	658.5	657.0	655.4	652.5	650.9	648.0	641.9	635.9	631.3
42.5°	590.6	590.6	589.1	587.7	584.6	586.2	583.1	580.1	574.1	569.6	566.5
45°	524.3	524.3	524.3	525.9	522.9	518.3	518.3	515.4	512.3	509.3	504.8
47.5°	465.6	470.1	467.1	465.6	467.1	461.1	461.1	458.0	455.1	452.0	446.0
50°	417.4	417.4	417.4	414.4	412.9	412.9	408.4	405.3	403.8	400.8	394.8
52.5°	373.6	370.7	370.7	369.1	367.6	364.6	364.6	361.7	355.7	352.6	348.1
55°	330.0	330.0	328.5	326.9	325.5	324.0	322.4	318.0	314.9	310.4	305.9
57.5°	290.8	293.8	292.3	289.4	286.3	286.3	283.3	280.3	275.8	271.3	266.7
60°	259.2	257.7	257.7	256.1	253.2	251.6	250.1	245.6	241.1	236.5	232.0
62.5°	226.0	226.0	226.0	223.0	220.0	218.4	217.0	213.9	207.9	203.4	200.3
65°	197.4	195.9	194.3	192.9	191.4	188.3	186.9	183.8	179.3	174.8	170.3
67.5°	168.8	167.3	167.3	165.7	161.2	159.7	159.7	155.2	150.7	146.2	141.6
70°	140.2	140.2	140.2	137.1	135.6	134.2	132.6	129.5	125.1	120.6	116.1
72.5°	116.1	114.5	114.5	113.0	108.5	107.0	105.4	102.5	98.0	94.9	92.0
75°	90.4	90.4	88.9	87.3	85.9	84.4	82.9	79.9	75.3	70.8	69.3
77.5°	69.3	67.8	67.8	66.3	63.2	61.8	61.8	58.7	54.3	51.2	48.2
80°	46.7	48.2	46.7	45.2	43.7	42.2	40.7	39.1	36.2	33.1	30.1
82.5°	28.6	30.1	28.6	28.6	27.1	25.6	25.6	22.6	21.0	19.6	18.1
85°	15.0	15.0	15.0	15.0	13.6	13.6	13.6	12.1	10.5	9.0	9.0
87.5°	4.5	6.0	4.5	4.5	4.5	4.5	4.5	4.5	3.0	3.0	3.0
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°	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6
2.5°	1133.1	1131.6	1130.1	1130.1	1130.1	1130.1	1130.1	1128.6	1127.0	1127.0	1127.0
5°	1130.1	1130.1	1130.1	1128.6	1127.0	1127.0	1124.1	1122.5	1121.0	1119.6	1118.1
7.5°	1127.0	1124.1	1122.5	1121.0	1119.6	1119.6	1116.5	1113.6	1113.6	1110.5	1107.5
10°	1118.1	1116.5	1113.6	1110.5	1109.0	1107.5	1104.5	1100.0	1098.4	1095.5	1092.4
12.5°	1107.5	1104.5	1101.5	1095.5	1093.9	1092.4	1086.4	1081.9	1078.9	1077.4	1069.8
15°	1093.9	1087.9	1083.4	1075.9	1074.3	1071.4	1066.9	1062.3	1056.2	1051.7	1048.8
17.5°	1069.8	1063.8	1056.2	1048.8	1045.7	1045.7	1038.2	1032.1	1024.7	1021.6	1015.6
20°	1041.2	1033.7	1027.6	1018.6	1014.0	1009.5	1005.1	996.0	989.9	985.4	977.9
22.5°	1008.0	997.5	989.9	980.9	973.4	968.9	961.3	953.8	946.3	941.7	935.7
25°	965.8	956.8	944.8	935.7	931.2	925.2	916.2	908.6	901.0	893.6	890.5
27.5°	919.1	907.1	896.5	886.0	881.5	876.9	866.4	857.4	851.4	843.8	840.8
30°	867.9	855.9	843.8	834.7	830.2	822.7	816.6	806.1	798.6	792.5	785.1
32.5°	809.2	800.1	789.6	776.0	773.0	767.0	757.9	753.4	744.3	739.8	733.8
35°	745.8	739.8	729.3	718.8	714.3	711.2	703.6	694.7	688.6	684.1	681.1
37.5°	685.6	678.1	667.5	660.0	657.0	652.5	643.4	638.9	632.8	629.9	623.9
40°	620.8	613.2	605.8	601.2	596.7	593.7	587.7	583.1	577.1	572.6	571.0
42.5°	557.5	552.9	546.9	541.0	539.5	535.0	531.9	527.4	522.9	521.4	516.9
45°	500.2	495.7	489.7	483.7	482.1	479.2	477.6	473.2	470.1	470.1	470.1
47.5°	443.0	438.5	432.5	429.4	431.0	424.9	424.9	423.4	420.4	420.4	421.9
50°	391.7	385.7	384.3	381.2	378.2	375.2	376.7	372.2	372.2	375.2	373.6
52.5°	343.6	337.6	336.0	333.0	331.6	331.6	330.0	330.0	328.5	330.0	330.0
55°	299.9	295.4	292.3	289.4	287.8	287.8	287.8	286.3	284.7	287.8	289.4
57.5°	260.6	259.2	256.1	251.6	250.1	248.6	247.2	247.2	247.2	247.2	248.6
60°	226.0	223.0	220.0	215.5	215.5	213.9	212.4	211.0	211.0	211.0	211.0
62.5°	195.9	191.4	186.9	183.8	182.3	180.8	179.3	176.4	176.4	176.4	176.4
65°	165.7	161.2	158.3	155.2	152.2	152.2	149.2	147.6	144.7	143.1	140.2
67.5°	137.1	134.2	131.1	126.6	125.1	123.5	120.6	119.0	114.5	113.0	111.5
70°	111.5	107.0	104.0	100.9	99.4	96.5	93.4	90.4	87.3	84.4	81.3
72.5°	87.3	82.9	79.9	76.8	73.9	73.9	69.3	66.3	61.8	58.7	54.3
75°	64.8	60.3	57.2	52.7	51.2	49.8	45.2	42.2	37.7	33.1	30.1
77.5°	43.7	40.7	37.7	33.1	30.1	30.1	25.6	22.6	19.6	15.0	13.6
80°	27.1	24.1	21.0	18.1	18.1	15.0	13.6	10.5	7.6	6.0	4.5
82.5°	15.0	13.6	12.1	9.0	9.0	7.6	6.0	4.5	3.0	1.5	1.5
85°	7.6	6.0	4.5	4.5	3.0	3.0	3.0	1.5	1.5	0.0	0.0
87.5°	3.0	1.5	1.5	1.5	1.5	1.5	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6
2.5°	1125.6	1125.6	1124.1	1124.1	1124.1	1122.5	1124.1	1122.5	1122.5	1122.5	1124.1
5°	1119.6	1116.5	1116.5	1115.0	1115.0	1113.6	1115.0	1113.6	1112.0	1110.5	1112.0
7.5°	1107.5	1104.5	1102.9	1101.5	1101.5	1101.5	1100.0	1098.4	1100.0	1095.5	1098.4
10°	1091.0	1089.4	1086.4	1085.0	1083.4	1085.0	1083.4	1080.3	1080.3	1080.3	1078.9
12.5°	1069.8	1066.9	1065.3	1063.8	1060.8	1060.8	1062.3	1059.3	1059.3	1056.2	1056.2
15°	1044.2	1041.2	1038.2	1038.2	1035.2	1035.2	1033.7	1033.7	1032.1	1030.7	1030.7
17.5°	1012.6	1008.0	1005.1	1006.6	1005.1	1003.5	1003.5	1000.6	999.0	1000.6	1000.6
20°	974.9	971.8	968.9	970.4	967.3	965.8	967.3	962.9	964.4	964.4	964.4
22.5°	932.7	931.2	926.7	926.7	923.6	922.2	923.6	923.6	925.2	923.6	923.6
25°	886.0	883.0	880.0	880.0	878.5	876.9	878.5	880.0	878.5	880.0	880.0
27.5°	836.3	831.8	831.8	828.7	828.7	830.2	828.7	830.2	831.8	831.8	834.7
30°	782.0	780.5	779.1	777.5	777.5	779.1	779.1	779.1	780.5	783.5	783.5
32.5°	730.8	727.8	724.8	724.8	727.8	726.3	727.8	727.8	730.8	730.8	733.8
35°	675.0	675.0	672.1	673.5	673.5	673.5	673.5	676.6	679.5	681.1	684.1
37.5°	623.9	619.2	620.8	620.8	622.3	620.8	625.3	625.3	628.4	628.4	631.3
40°	568.1	568.1	569.6	568.1	569.6	569.6	572.6	575.6	577.1	580.1	581.7
42.5°	515.4	518.3	515.4	516.9	518.3	519.8	521.4	522.9	528.9	531.9	536.4
45°	467.1	468.7	470.1	471.6	470.1	473.2	474.7	477.6	482.1	483.7	485.2
47.5°	420.4	421.9	423.4	424.9	424.9	427.9	429.4	432.5	435.4	437.0	438.5
50°	375.2	378.2	379.7	379.7	381.2	384.3	387.2	387.2	390.3	394.8	396.3
52.5°	334.5	334.5	337.6	339.0	340.5	340.5	345.0	346.6	348.1	351.1	354.1
55°	289.4	293.8	295.4	295.4	298.3	301.4	302.8	304.4	304.4	310.4	310.4
57.5°	250.1	251.6	254.6	254.6	254.6	259.2	259.2	262.2	263.7	265.2	268.2
60°	211.0	213.9	213.9	215.5	213.9	217.0	218.4	221.5	223.0	224.5	226.0
62.5°	174.8	174.8	176.4	176.4	176.4	176.4	179.3	179.3	182.3	183.8	185.3
65°	140.2	140.2	140.2	140.2	140.2	140.2	140.2	140.2	141.6	141.6	144.7
67.5°	108.5	107.0	104.0	105.4	104.0	104.0	102.5	102.5	104.0	104.0	107.0
70°	78.4	76.8	73.9	73.9	72.3	70.8	69.3	67.8	66.3	66.3	66.3
72.5°	51.2	48.2	43.7	42.2	42.2	39.1	36.2	34.6	34.6	34.6	34.6
75°	25.6	22.6	19.6	18.1	18.1	15.0	16.5	15.0	15.0	15.0	15.0
77.5°	10.5	7.6	6.0	6.0	6.0	4.5	4.5	4.5	4.5	4.5	4.5
80°	3.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
82.5°	1.5	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: P575619

CATALOG NUMBER: HC820D010-HM80520835-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6	1128.6
2.5°	1122.5	1122.5	1119.6	1121.0	1121.0	1121.0	1121.0	1121.0
5°	1109.0	1110.5	1109.0	1110.5	1110.5	1109.0	1109.0	1109.0
7.5°	1095.5	1096.9	1095.5	1096.9	1096.9	1096.9	1095.5	1095.5
10°	1078.9	1078.9	1078.9	1078.9	1078.9	1077.4	1078.9	1078.9
12.5°	1056.2	1056.2	1056.2	1057.8	1057.8	1056.2	1056.2	1054.8
15°	1032.1	1029.2	1030.7	1032.1	1030.7	1030.7	1030.7	1030.7
17.5°	999.0	1000.6	999.0	999.0	999.0	999.0	1000.6	999.0
20°	964.4	964.4	965.8	964.4	964.4	964.4	964.4	962.9
22.5°	925.2	923.6	923.6	925.2	925.2	923.6	925.2	925.2
25°	881.5	883.0	881.5	881.5	883.0	883.0	883.0	881.5
27.5°	834.7	836.3	837.8	836.3	836.3	836.3	837.8	839.3
30°	786.5	789.6	786.5	786.5	789.6	788.0	789.6	789.6
32.5°	735.3	739.8	736.9	739.8	739.8	741.4	739.8	741.4
35°	684.1	688.6	688.6	688.6	690.2	691.6	691.6	690.2
37.5°	635.9	637.3	637.3	640.4	641.9	643.4	643.4	641.9
40°	586.2	589.1	590.6	590.6	590.6	593.7	596.7	593.7
42.5°	537.9	539.5	541.0	541.0	544.0	545.5	546.9	546.9
45°	491.2	494.2	495.7	497.3	498.8	501.8	500.2	503.3
47.5°	443.0	447.5	449.0	450.6	453.5	455.1	456.6	458.0
50°	399.3	402.4	402.4	405.3	409.8	409.8	412.9	414.4
52.5°	355.7	357.1	358.6	360.2	363.1	366.2	366.2	369.1
55°	313.5	314.9	314.9	316.4	318.0	324.0	325.5	325.5
57.5°	269.7	269.7	272.7	274.2	275.8	278.7	278.7	278.7
60°	227.5	229.1	229.1	230.5	232.0	235.1	236.5	235.1
62.5°	185.3	186.9	186.9	188.3	191.4	192.9	191.4	191.4
65°	146.2	147.6	147.6	149.2	152.2	152.2	150.7	152.2
67.5°	107.0	107.0	107.0	107.0	107.0	107.0	107.0	107.0
70°	67.8	66.3	64.8	66.3	66.3	66.3	64.8	67.8
72.5°	33.1	34.6	34.6	34.6	34.6	34.6	34.6	33.1
75°	15.0	15.0	13.6	13.6	13.6	15.0	15.0	13.6
77.5°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
80°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
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)