

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

Report Number: P85555

Luminaire Tested: **ML706830-495PWW06-H750ICAT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P85555
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML706830-495PWW06-H750ICAT
Description: HALO 6 INCH LED DOWNLIGHT WITH 600 Lmn MODULE, DIFFUSE LENS AND WHITE REFLECTOR WITH PLASTIC SPECULAR KICKER---ABSOLUTE PHOTOMETRY IS BASED ON CALIBRATION FACTORS CREATED USING A 500 WATT, NIST TRACEABLE, OMNI-DIRECTIONAL LAB LUMEN STANDARD IN THE GONIOPHOTOMETER WITH TEST DISTANCE OF 28.75 FEET----

Light Source: (1)SMT LED 3000K
CL-L221-C14L2-B

Ballast/Driver: (1)ELECTRONIC DRIVER
RLD011

Summary

Lumens per Lamp: 637 (1 lamp)
Luminaire Lumens: 634.4 lumens
Efficiency: 99.6%
Efficacy: 45.0 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.24 / 1.29
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')
CIE Type: Direct

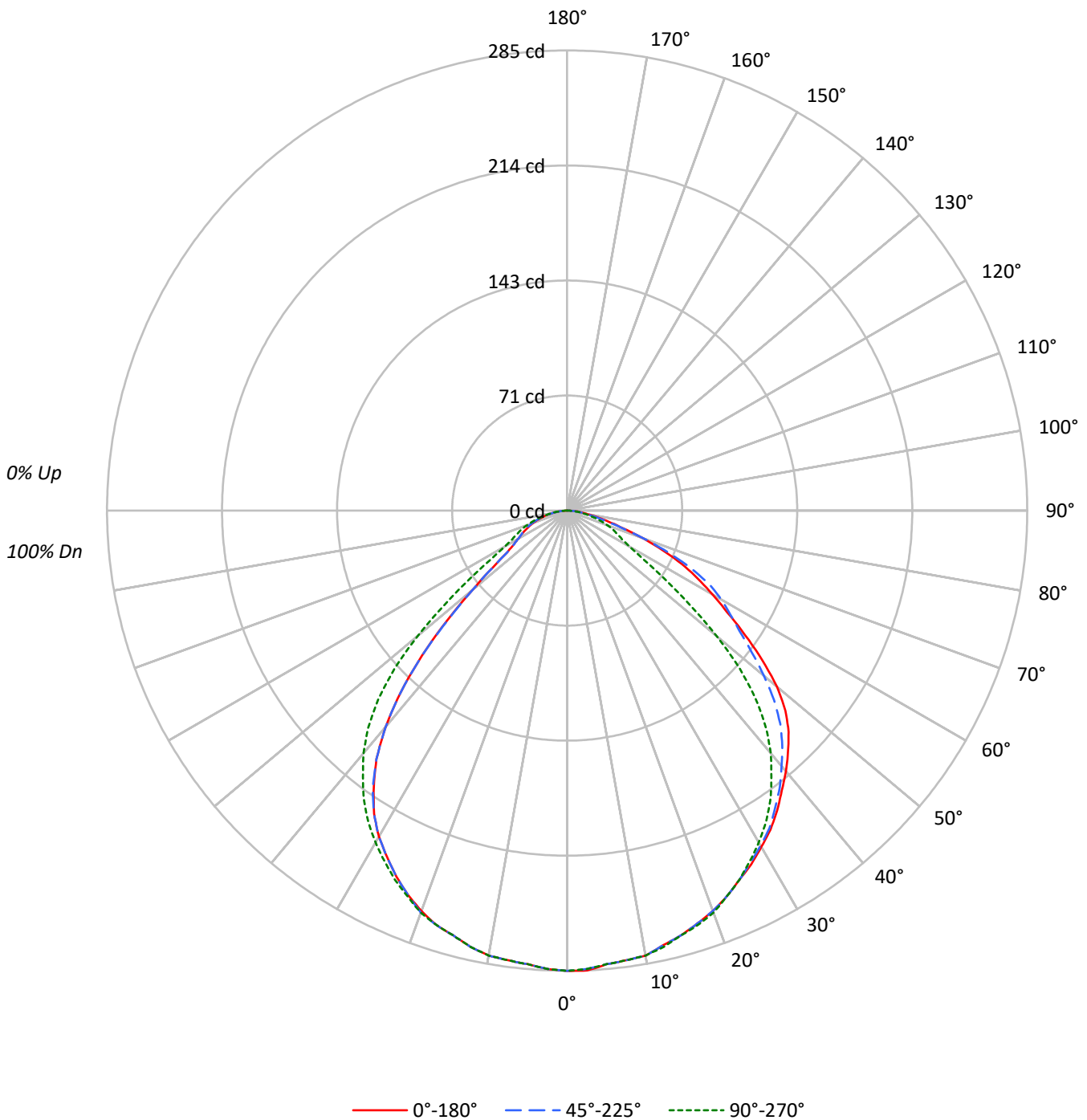
Input Watts (W): 14.1
Input Voltage (V): NR
Input Current (Ain): 0.12376
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	89					87				
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	80	77					75				
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67					65				
4	86	75	67	61	84	74	67	61	72	65	60	69	64	59	67	63	59					57				
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52					50				
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46					44				
7	69	56	48	42	67	56	48	42	54	47	42	53	46	42	51	46	41					40				
8	64	52	44	38	63	51	43	38	50	43	38	49	42	38	47	42	37					36				
9	60	48	40	35	59	47	40	35	46	39	34	45	39	34	44	38	34					32				
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31					30				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	17018	17018	17018
5°	16513	16513	16513
10°	16200	16200	16200
15°	15714	15714	15714
20°	15285	15349	15285
25°	14785	14785	14662
30°	14378	14186	13935
35°	13934	13479	12828
40°	13437	12494	11144
45°	12939	11031	8483
50°	11962	8520	5381
55°	10154	5515	3440
60°	8494	3638	2861
65°	7054	3050	2573
70°	5024	2673	2250
75°	3069	2084	1841
80°	1741	1453	1303
85°	1086	712	712



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	26.9	4.2	4.2
10°-20°	77.0	12.1	12.1
20°-30°	115.9	18.3	18.2
30°-40°	135.5	21.4	21.3
40°-50°	121.6	19.2	19.1
50°-60°	79.0	12.4	12.4
60°-70°	50.9	8.0	8.0
70°-80°	22.2	3.5	3.5
80°-90°	5.4	0.8	0.8
90°-100°	0.0	0.0	0.0
100°-110°	0.0	0.0	0.0
110°-120°	0.0	0.0	0.0
120°-130°	0.0	0.0	0.0
130°-140°	0.0	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-30°	219.8	34.6	34.5
0°-40°	355.3	56.0	55.8
0°-60°	555.8	87.6	87.3
0°-90°	634.4	100.0	99.6
90°-120°	0.0	0.0	0.0
90°-150°	0.0	0.0	0.0
90°-180°	0.0	0.0	0.0
0°-180°	634.4	100.0	99.6

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	285	285	285	285	285	
5°	282	282	282	282	282	27
15°	272	272	272	272	272	77
25°	252	252	252	250	250	117
35°	227	225	219	210	209	142
45°	194	187	165	127	127	149
55°	135	130	73	46	46	121
65°	78	85	34	30	29	77
75°	26	24	18	17	16	30
85°	6	5	4	4	4	7
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	285.1	285.1	285.1	285.1	285.1	285.1	285.1	285.1	285.1	285.1	285.1
2.5°	285.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1
5°	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0
7.5°	280.9	280.9	280.9	280.9	280.9	280.9	280.9	280.9	280.9	280.9	280.9
10°	279.8	279.8	279.8	279.8	279.8	279.8	279.8	278.8	279.8	279.8	279.8
12.5°	275.6	275.6	275.6	275.6	275.6	275.6	275.6	275.6	275.6	275.6	275.6
15°	272.4	271.4	271.4	271.4	271.4	271.4	271.4	271.4	271.4	272.4	272.4
17.5°	268.2	268.2	268.2	268.2	268.2	268.2	268.2	268.2	268.2	268.2	268.2
20°	263.9	263.9	263.9	263.9	263.9	263.9	263.9	263.9	263.9	263.9	265.0
22.5°	258.6	258.6	258.6	258.6	258.6	258.6	258.6	258.6	258.6	258.6	258.6
25°	252.3	252.3	252.3	252.3	252.3	252.3	252.3	252.3	252.3	252.3	252.3
27.5°	247.0	245.9	245.9	245.9	245.9	245.9	245.9	245.9	245.9	245.9	245.9
30°	240.6	240.6	240.6	240.6	240.6	240.6	239.6	239.6	239.6	239.6	239.6
32.5°	234.3	234.3	233.2	233.2	233.2	233.2	233.2	233.2	233.2	233.2	232.1
35°	226.8	225.8	225.8	225.8	225.8	225.8	224.7	224.7	224.7	224.7	224.7
37.5°	218.4	218.4	218.4	218.4	217.3	217.3	217.3	216.2	216.2	216.2	215.2
40°	210.9	210.9	210.9	209.9	209.9	209.9	208.8	208.8	207.8	206.7	206.7
42.5°	202.5	202.5	202.5	202.5	201.4	200.3	200.3	199.3	198.2	197.2	197.2
45°	194.0	194.0	194.0	192.9	191.9	190.8	189.7	188.7	187.6	186.6	185.5
47.5°	183.4	182.3	182.3	181.3	181.3	180.2	178.1	177.0	176.0	173.8	172.8
50°	169.6	168.5	168.5	167.5	166.4	165.4	164.3	162.2	161.1	159.0	157.9
52.5°	152.6	151.6	151.6	151.6	150.5	149.5	148.4	147.3	145.2	144.2	142.0
55°	134.6	134.6	134.6	134.6	134.6	133.6	133.6	132.5	131.4	130.4	129.3
57.5°	117.7	117.7	118.7	118.7	119.8	119.8	119.8	119.8	119.8	119.8	118.7
60°	103.9	103.9	104.9	106.0	106.0	107.1	108.1	109.2	110.2	110.2	110.2
62.5°	91.2	91.2	92.2	92.2	93.3	94.3	95.4	97.5	98.6	99.6	100.7
65°	78.4	78.4	78.4	78.4	79.5	80.6	81.6	82.7	83.7	84.8	86.9
67.5°	63.6	63.6	63.6	63.6	63.6	64.7	64.7	65.7	66.8	67.8	68.9
70°	49.8	48.8	48.8	48.8	48.8	48.8	48.8	48.8	48.8	49.8	49.8
72.5°	36.0	36.0	36.0	36.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
75°	26.5	26.5	25.4	25.4	25.4	24.4	24.4	24.4	24.4	24.4	24.4
77.5°	19.1	18.0	18.0	18.0	18.0	18.0	17.0	17.0	17.0	17.0	17.0
80°	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	11.7	11.7	11.7
82.5°	9.5	9.5	9.5	9.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
85°	6.4	6.4	6.4	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
87.5°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	2.1	2.1	2.1	2.1
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	285.1	285.1	285.1	285.1	285.1	285.1	285.1	285.1	285.1	285.1	285.1
2.5°	284.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1
5°	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0
7.5°	280.9	280.9	280.9	280.9	280.9	280.9	280.9	280.9	280.9	280.9	280.9
10°	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8
12.5°	275.6	275.6	275.6	275.6	276.7	276.7	276.7	276.7	276.7	276.7	276.7
15°	272.4	272.4	272.4	272.4	272.4	272.4	272.4	272.4	272.4	272.4	272.4
17.5°	269.2	269.2	269.2	269.2	269.2	269.2	269.2	269.2	269.2	269.2	269.2
20°	265.0	265.0	265.0	265.0	265.0	265.0	265.0	265.0	265.0	265.0	265.0
22.5°	258.6	258.6	258.6	259.7	259.7	259.7	259.7	258.6	259.7	258.6	258.6
25°	252.3	252.3	252.3	252.3	252.3	252.3	252.3	252.3	252.3	251.2	251.2
27.5°	245.9	245.9	245.9	245.9	245.9	245.9	244.9	244.9	244.9	244.9	243.8
30°	239.6	239.6	239.6	239.6	239.6	238.5	238.5	237.4	237.4	236.4	235.3
32.5°	232.1	232.1	232.1	232.1	231.1	231.1	230.0	229.0	227.9	226.8	225.8
35°	223.7	223.7	223.7	222.6	222.6	221.5	220.5	219.4	217.3	216.2	214.1
37.5°	215.2	215.2	214.1	213.1	212.0	210.9	209.9	207.8	205.6	203.5	201.4
40°	206.7	205.6	204.6	203.5	202.5	200.3	198.2	196.1	192.9	189.7	185.5
42.5°	196.1	195.0	194.0	191.9	189.7	187.6	185.5	182.3	178.1	172.8	167.5
45°	184.4	183.4	181.3	179.1	176.0	172.8	169.6	165.4	160.1	152.6	145.2
47.5°	170.7	169.6	166.4	163.2	159.0	154.8	150.5	145.2	138.9	130.4	121.9
50°	155.8	153.7	150.5	145.2	139.9	133.6	127.2	120.8	114.5	106.0	97.5
52.5°	139.9	137.8	133.6	126.1	118.7	110.2	102.8	95.4	90.1	82.7	75.3
55°	127.2	124.0	118.7	110.2	99.6	89.0	79.5	73.1	67.8	62.5	58.3
57.5°	117.7	114.5	108.1	97.5	84.8	73.1	62.5	55.1	50.9	47.7	45.6
60°	110.2	108.1	100.7	89.0	75.3	61.5	51.9	44.5	41.3	39.2	38.2
62.5°	100.7	98.6	92.2	81.6	67.8	54.1	44.5	38.2	35.0	33.9	32.9
65°	86.9	85.9	80.6	71.0	59.4	47.7	39.2	33.9	31.8	30.7	29.7
67.5°	70.0	68.9	65.7	58.3	49.8	41.3	33.9	30.7	28.6	27.6	27.6
70°	50.9	50.9	48.8	45.6	39.2	33.9	28.6	26.5	24.4	24.4	24.4
72.5°	35.0	35.0	33.9	32.9	29.7	26.5	23.3	22.3	21.2	21.2	20.1
75°	23.3	23.3	23.3	23.3	22.3	20.1	19.1	18.0	17.0	17.0	17.0
77.5°	15.9	15.9	15.9	15.9	15.9	14.8	14.8	13.8	13.8	13.8	13.8
80°	11.7	11.7	11.7	11.7	11.7	10.6	10.6	10.6	10.6	10.6	10.6
82.5°	8.5	8.5	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
85°	5.3	5.3	5.3	5.3	5.3	4.2	4.2	4.2	4.2	4.2	4.2
87.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	285.1	285.1	285.1	285.1	285.1	285.1	285.1	285.1	285.1	285.1	285.1
2.5°	284.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1	284.1
5°	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0
7.5°	280.9	280.9	280.9	280.9	280.9	280.9	280.9	280.9	280.9	280.9	280.9
10°	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8
12.5°	276.7	276.7	276.7	276.7	276.7	276.7	276.7	276.7	276.7	276.7	276.7
15°	272.4	272.4	272.4	272.4	272.4	272.4	272.4	273.5	272.4	272.4	272.4
17.5°	269.2	269.2	269.2	269.2	269.2	269.2	269.2	269.2	269.2	269.2	269.2
20°	265.0	265.0	265.0	265.0	265.0	265.0	265.0	265.0	265.0	263.9	263.9
22.5°	258.6	258.6	258.6	258.6	258.6	257.6	257.6	257.6	257.6	257.6	257.6
25°	251.2	251.2	251.2	250.2	250.2	250.2	250.2	250.2	250.2	250.2	250.2
27.5°	243.8	242.7	242.7	242.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7
30°	235.3	234.3	234.3	233.2	233.2	233.2	233.2	233.2	233.2	233.2	233.2
32.5°	225.8	224.7	223.7	223.7	222.6	222.6	222.6	222.6	222.6	222.6	222.6
35°	213.1	212.0	210.9	209.9	209.9	209.9	208.8	208.8	208.8	208.8	208.8
37.5°	199.3	197.2	196.1	195.0	194.0	194.0	194.0	194.0	194.0	194.0	194.0
40°	182.3	179.1	178.1	177.0	176.0	174.9	174.9	174.9	174.9	174.9	174.9
42.5°	162.2	157.9	155.8	153.7	152.6	152.6	152.6	152.6	152.6	152.6	152.6
45°	138.9	133.6	129.3	128.3	127.2	127.2	127.2	127.2	127.2	127.2	127.2
47.5°	113.4	107.1	102.8	101.8	100.7	99.6	99.6	99.6	99.6	100.7	100.7
50°	89.0	82.7	79.5	77.4	76.3	76.3	76.3	76.3	76.3	76.3	76.3
52.5°	68.9	63.6	60.4	58.3	58.3	58.3	58.3	58.3	58.3	58.3	58.3
55°	53.0	49.8	47.7	46.6	46.6	45.6	45.6	45.6	45.6	45.6	45.6
57.5°	42.4	41.3	40.3	39.2	39.2	39.2	39.2	39.2	39.2	39.2	39.2
60°	37.1	36.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
62.5°	32.9	32.9	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8
65°	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	28.6
67.5°	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5
70°	24.4	24.4	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3
72.5°	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	19.1	19.1	19.1
75°	17.0	17.0	17.0	17.0	17.0	17.0	15.9	15.9	15.9	15.9	15.9
77.5°	13.8	13.8	13.8	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
80°	10.6	10.6	10.6	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
82.5°	7.4	7.4	7.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
85°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
87.5°	2.1	2.1	2.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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: P85555

CATALOG NUMBER: ML706830-495PWW06-H750ICAT

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	285.1	285.1	285.1	285.1
2.5°	284.1	284.1	284.1	284.1
5°	282.0	282.0	282.0	282.0
7.5°	280.9	280.9	280.9	280.9
10°	279.8	279.8	279.8	279.8
12.5°	276.7	276.7	276.7	276.7
15°	272.4	272.4	272.4	272.4
17.5°	269.2	269.2	269.2	269.2
20°	263.9	263.9	263.9	263.9
22.5°	257.6	257.6	257.6	257.6
25°	250.2	250.2	250.2	250.2
27.5°	241.7	241.7	241.7	241.7
30°	232.1	233.2	233.2	233.2
32.5°	222.6	222.6	222.6	222.6
35°	208.8	208.8	208.8	208.8
37.5°	194.0	194.0	194.0	194.0
40°	174.9	174.9	174.9	174.9
42.5°	152.6	152.6	152.6	152.6
45°	127.2	127.2	127.2	127.2
47.5°	99.6	100.7	100.7	100.7
50°	76.3	76.3	76.3	76.3
52.5°	58.3	58.3	58.3	58.3
55°	45.6	45.6	45.6	45.6
57.5°	39.2	39.2	38.2	39.2
60°	35.0	35.0	33.9	35.0
62.5°	31.8	31.8	31.8	31.8
65°	28.6	28.6	28.6	28.6
67.5°	26.5	26.5	25.4	25.4
70°	23.3	23.3	22.3	22.3
72.5°	19.1	19.1	19.1	19.1
75°	15.9	15.9	15.9	15.9
77.5°	12.7	12.7	12.7	12.7
80°	9.5	9.5	9.5	9.5
82.5°	6.4	6.4	6.4	6.4
85°	4.2	4.2	4.2	4.2
87.5°	1.1	1.1	1.1	1.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)