

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: P85556

Luminaire Tested: **ML706835-495PWW06-H750ICAT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P85556
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML706835-495PWW06-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 3500K
CL-L221-C14L2-B

Ballast/Driver: (1)ELECTRONIC DRIVER
RLD011

Summary

Lumens per Lamp: 672 (1 lamp)
Luminaire Lumens: 670.3 lumens
Efficiency: 99.7%
Efficacy: 47.5 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

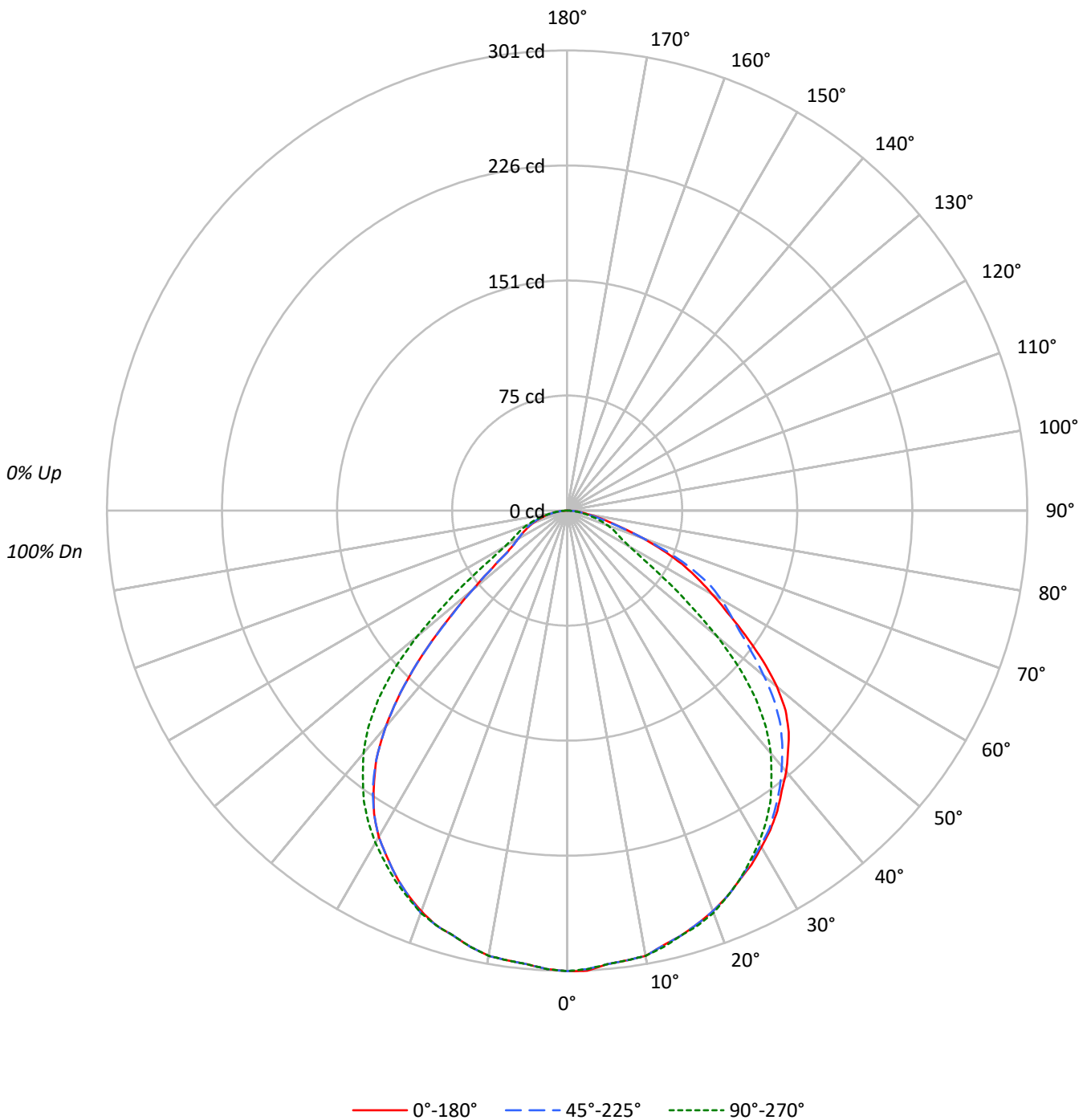
Input Watts (W): 14.1
Input Voltage (V): NR
Input Current (A_{in}): 0.12376
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P85556

CATALOG NUMBER: ML706835-495PWW06-H750ICAT

Luminous Intensity Polar Plot





TEST NUMBER: P85556

CATALOG NUMBER: ML706835-495PWW06-H750ICAT

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	100	100	100	100	100		
1	110	106	102	99	107	104	100	97	100	97	94	96	94	92	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	79	83	80	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	83	76	70	80	74	69	77	72	68	75	70	67	65	65	65	65	65	65	65		
4	86	75	68	61	84	74	67	61	72	65	60	69	64	59	67	63	59	57	57	57	57	57	57	57		
5	80	68	60	54	78	67	59	54	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	54	48	72	61	53	47	59	52	47	58	51	47	56	51	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	64	52	44	38	63	51	43	38	50	43	38	49	42	38	47	42	38	36	36	36	36	36	36	36		
9	60	48	40	35	59	47	40	35	46	39	34	45	39	34	44	38	34	32	32	32	32	32	32	32		
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	17985	17985	17985
5°	17444	17444	17444
10°	17121	17121	17121
15°	16603	16603	16603
20°	16154	16218	16154
25°	15623	15623	15488
30°	15190	14993	14724
35°	14727	14241	13553
40°	14202	13202	11774
45°	13672	11651	8964
50°	12639	9006	5685
55°	10727	5831	3636
60°	8977	3842	3025
65°	7459	3221	2717
70°	5306	2825	2371
75°	3242	2200	1945
80°	1837	1536	1385
85°	1137	763	763



TEST NUMBER: P85556

CATALOG NUMBER: ML706835-495PWW06-H750ICAT

ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	28.4	4.2	4.2
10°-20°	81.4	12.1	12.1
20°-30°	122.5	18.3	18.2
30°-40°	143.2	21.4	21.3
40°-50°	128.5	19.2	19.1
50°-60°	83.4	12.4	12.4
60°-70°	53.8	8.0	8.0
70°-80°	23.5	3.5	3.5
80°-90°	5.7	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°	232.2	34.6	34.6
0°-40°	375.4	56.0	55.9
0°-60°	587.3	87.6	87.4
0°-90°	670.3	100.0	99.7
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°	670.3	100.0	99.7

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	301	301	301	301	301	
5°	298	298	298	298	298	28
15°	288	288	288	288	288	81
25°	267	267	267	264	264	123
35°	240	237	232	222	221	150
45°	205	197	175	134	134	157
55°	142	138	77	48	48	128
65°	83	90	36	31	30	81
75°	28	26	19	18	17	31
85°	7	6	4	4	4	7
90°	0	0	0	0	0	



TEST NUMBER: P85556

CATALOG NUMBER: ML706835-495PWW06-H750ICAT

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	301.3	301.3	301.3	301.3	301.3	301.3	301.3	301.3	301.3	301.3	301.3
2.5°	301.3	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2
5°	297.9	297.9	297.9	297.9	297.9	297.9	297.9	297.9	297.9	297.9	297.9
7.5°	296.8	296.8	296.8	296.8	296.8	296.8	296.8	296.8	296.8	296.8	296.8
10°	295.7	295.7	295.7	295.7	295.7	295.7	295.7	294.6	295.7	295.7	295.7
12.5°	291.2	291.2	291.2	291.2	291.2	291.2	291.2	291.2	291.2	291.2	291.2
15°	287.8	286.7	286.7	286.7	286.7	286.7	286.7	286.7	286.7	287.8	287.8
17.5°	283.4	283.4	283.4	283.4	283.4	283.4	283.4	283.4	283.4	283.4	283.4
20°	278.9	278.9	278.9	278.9	278.9	278.9	278.9	278.9	278.9	278.9	280.0
22.5°	273.3	273.3	273.3	273.3	273.3	273.3	273.3	273.3	273.3	273.3	273.3
25°	266.6	266.6	266.6	266.6	266.6	266.6	266.6	266.6	266.6	266.6	266.6
27.5°	261.0	259.8	259.8	259.8	259.8	259.8	259.8	259.8	259.8	259.8	259.8
30°	254.2	254.2	254.2	254.2	254.2	254.2	253.1	253.1	253.1	253.1	253.1
32.5°	247.5	247.5	246.4	246.4	246.4	246.4	246.4	246.4	246.4	246.4	245.3
35°	239.7	238.6	238.6	238.6	238.6	238.6	237.4	237.4	237.4	237.4	237.4
37.5°	230.7	230.7	230.7	230.7	229.6	229.6	229.6	228.5	228.5	228.5	227.4
40°	222.9	222.9	222.9	221.8	221.8	221.8	220.6	220.6	219.5	218.4	218.4
42.5°	213.9	213.9	213.9	213.9	212.8	211.7	211.7	210.6	209.4	208.3	208.3
45°	205.0	205.0	205.0	203.8	202.7	201.6	200.5	199.4	198.2	197.1	196.0
47.5°	193.8	192.6	192.6	191.5	191.5	190.4	188.2	187.0	185.9	183.7	182.6
50°	179.2	178.1	178.1	177.0	175.8	174.7	173.6	171.4	170.2	168.0	166.9
52.5°	161.3	160.2	160.2	160.2	159.0	157.9	156.8	155.7	153.4	152.3	150.1
55°	142.2	142.2	142.2	142.2	142.2	141.1	141.1	140.0	138.9	137.8	136.6
57.5°	124.3	124.3	125.4	125.4	126.6	126.6	126.6	126.6	126.6	126.6	125.4
60°	109.8	109.8	110.9	112.0	112.0	113.1	114.2	115.4	116.5	116.5	116.5
62.5°	96.3	96.3	97.4	97.4	98.6	99.7	100.8	103.0	104.2	105.3	106.4
65°	82.9	82.9	82.9	82.9	84.0	85.1	86.2	87.4	88.5	89.6	91.8
67.5°	67.2	67.2	67.2	67.2	67.2	68.3	68.3	69.4	70.6	71.7	72.8
70°	52.6	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	52.6	52.6
72.5°	38.1	38.1	38.1	38.1	37.0	37.0	37.0	37.0	37.0	37.0	37.0
75°	28.0	28.0	26.9	26.9	26.9	25.8	25.8	25.8	25.8	25.8	25.8
77.5°	20.2	19.0	19.0	19.0	19.0	19.0	17.9	17.9	17.9	17.9	17.9
80°	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	12.3	12.3	12.3
82.5°	10.1	10.1	10.1	10.1	9.0	9.0	9.0	9.0	9.0	9.0	9.0
85°	6.7	6.7	6.7	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
87.5°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	2.2	2.2	2.2	2.2
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: P85556

CATALOG NUMBER: ML706835-495PWW06-H750ICAT

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	301.3	301.3	301.3	301.3	301.3	301.3	301.3	301.3	301.3	301.3	301.3
2.5°	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2
5°	297.9	297.9	297.9	297.9	297.9	297.9	297.9	297.9	297.9	297.9	297.9
7.5°	296.8	296.8	296.8	296.8	296.8	296.8	296.8	296.8	296.8	296.8	296.8
10°	295.7	295.7	295.7	295.7	295.7	295.7	295.7	295.7	295.7	295.7	295.7
12.5°	291.2	291.2	291.2	291.2	292.3	292.3	292.3	292.3	292.3	292.3	292.3
15°	287.8	287.8	287.8	287.8	287.8	287.8	287.8	287.8	287.8	287.8	287.8
17.5°	284.5	284.5	284.5	284.5	284.5	284.5	284.5	284.5	284.5	284.5	284.5
20°	280.0	280.0	280.0	280.0	280.0	280.0	280.0	280.0	280.0	280.0	280.0
22.5°	273.3	273.3	273.3	274.4	274.4	274.4	274.4	273.3	274.4	273.3	273.3
25°	266.6	266.6	266.6	266.6	266.6	266.6	266.6	266.6	266.6	265.4	265.4
27.5°	259.8	259.8	259.8	259.8	259.8	259.8	258.7	258.7	258.7	258.7	257.6
30°	253.1	253.1	253.1	253.1	253.1	252.0	252.0	250.9	250.9	249.8	248.6
32.5°	245.3	245.3	245.3	245.3	244.2	244.2	243.0	241.9	240.8	239.7	238.6
35°	236.3	236.3	236.3	235.2	235.2	234.1	233.0	231.8	229.6	228.5	226.2
37.5°	227.4	227.4	226.2	225.1	224.0	222.9	221.8	219.5	217.3	215.0	212.8
40°	218.4	217.3	216.2	215.0	213.9	211.7	209.4	207.2	203.8	200.5	196.0
42.5°	207.2	206.1	205.0	202.7	200.5	198.2	196.0	192.6	188.2	182.6	177.0
45°	194.9	193.8	191.5	189.3	185.9	182.6	179.2	174.7	169.1	161.3	153.4
47.5°	180.3	179.2	175.8	172.5	168.0	163.5	159.0	153.4	146.7	137.8	128.8
50°	164.6	162.4	159.0	153.4	147.8	141.1	134.4	127.7	121.0	112.0	103.0
52.5°	147.8	145.6	141.1	133.3	125.4	116.5	108.6	100.8	95.2	87.4	79.5
55°	134.4	131.0	125.4	116.5	105.3	94.1	84.0	77.3	71.7	66.1	61.6
57.5°	124.3	121.0	114.2	103.0	89.6	77.3	66.1	58.2	53.8	50.4	48.2
60°	116.5	114.2	106.4	94.1	79.5	65.0	54.9	47.0	43.7	41.4	40.3
62.5°	106.4	104.2	97.4	86.2	71.7	57.1	47.0	40.3	37.0	35.8	34.7
65°	91.8	90.7	85.1	75.0	62.7	50.4	41.4	35.8	33.6	32.5	31.4
67.5°	73.9	72.8	69.4	61.6	52.6	43.7	35.8	32.5	30.2	29.1	29.1
70°	53.8	53.8	51.5	48.2	41.4	35.8	30.2	28.0	25.8	25.8	25.8
72.5°	37.0	37.0	35.8	34.7	31.4	28.0	24.6	23.5	22.4	22.4	21.3
75°	24.6	24.6	24.6	24.6	23.5	21.3	20.2	19.0	17.9	17.9	17.9
77.5°	16.8	16.8	16.8	16.8	16.8	15.7	15.7	14.6	14.6	14.6	14.6
80°	12.3	12.3	12.3	12.3	12.3	11.2	11.2	11.2	11.2	11.2	11.2
82.5°	9.0	9.0	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
85°	5.6	5.6	5.6	5.6	5.6	4.5	4.5	4.5	4.5	4.5	4.5
87.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
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: P85556

CATALOG NUMBER: ML706835-495PWW06-H750ICAT

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	301.3	301.3	301.3	301.3	301.3	301.3	301.3	301.3	301.3	301.3	301.3
2.5°	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2
5°	297.9	297.9	297.9	297.9	297.9	297.9	297.9	297.9	297.9	297.9	297.9
7.5°	296.8	296.8	296.8	296.8	296.8	296.8	296.8	296.8	296.8	296.8	296.8
10°	295.7	295.7	295.7	295.7	295.7	295.7	295.7	295.7	295.7	295.7	295.7
12.5°	292.3	292.3	292.3	292.3	292.3	292.3	292.3	292.3	292.3	292.3	292.3
15°	287.8	287.8	287.8	287.8	287.8	287.8	287.8	289.0	287.8	287.8	287.8
17.5°	284.5	284.5	284.5	284.5	284.5	284.5	284.5	284.5	284.5	284.5	284.5
20°	280.0	280.0	280.0	280.0	280.0	280.0	280.0	280.0	280.0	278.9	278.9
22.5°	273.3	273.3	273.3	273.3	273.3	272.2	272.2	272.2	272.2	272.2	272.2
25°	265.4	265.4	265.4	264.3	264.3	264.3	264.3	264.3	264.3	264.3	264.3
27.5°	257.6	256.5	256.5	256.5	255.4	255.4	255.4	255.4	255.4	255.4	255.4
30°	248.6	247.5	247.5	246.4	246.4	246.4	246.4	246.4	246.4	246.4	246.4
32.5°	238.6	237.4	236.3	236.3	235.2	235.2	235.2	235.2	235.2	235.2	235.2
35°	225.1	224.0	222.9	221.8	221.8	221.8	220.6	220.6	220.6	220.6	220.6
37.5°	210.6	208.3	207.2	206.1	205.0	205.0	205.0	205.0	205.0	205.0	205.0
40°	192.6	189.3	188.2	187.0	185.9	184.8	184.8	184.8	184.8	184.8	184.8
42.5°	171.4	166.9	164.6	162.4	161.3	161.3	161.3	161.3	161.3	161.3	161.3
45°	146.7	141.1	136.6	135.5	134.4	134.4	134.4	134.4	134.4	134.4	134.4
47.5°	119.8	113.1	108.6	107.5	106.4	105.3	105.3	105.3	105.3	106.4	106.4
50°	94.1	87.4	84.0	81.8	80.6	80.6	80.6	80.6	80.6	80.6	80.6
52.5°	72.8	67.2	63.8	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6
55°	56.0	52.6	50.4	49.3	49.3	48.2	48.2	48.2	48.2	48.2	48.2
57.5°	44.8	43.7	42.6	41.4	41.4	41.4	41.4	41.4	41.4	41.4	41.4
60°	39.2	38.1	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0
62.5°	34.7	34.7	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.6
65°	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	30.2
67.5°	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0
70°	25.8	25.8	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
72.5°	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	20.2	20.2	20.2
75°	17.9	17.9	17.9	17.9	17.9	17.9	16.8	16.8	16.8	16.8	16.8
77.5°	14.6	14.6	14.6	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
80°	11.2	11.2	11.2	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
82.5°	7.8	7.8	7.8	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
85°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
87.5°	2.2	2.2	2.2	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: P85556

CATALOG NUMBER: ML706835-495PWW06-H750ICAT

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	301.3	301.3	301.3	301.3
2.5°	300.2	300.2	300.2	300.2
5°	297.9	297.9	297.9	297.9
7.5°	296.8	296.8	296.8	296.8
10°	295.7	295.7	295.7	295.7
12.5°	292.3	292.3	292.3	292.3
15°	287.8	287.8	287.8	287.8
17.5°	284.5	284.5	284.5	284.5
20°	278.9	278.9	278.9	278.9
22.5°	272.2	272.2	272.2	272.2
25°	264.3	264.3	264.3	264.3
27.5°	255.4	255.4	255.4	255.4
30°	245.3	246.4	246.4	246.4
32.5°	235.2	235.2	235.2	235.2
35°	220.6	220.6	220.6	220.6
37.5°	205.0	205.0	205.0	205.0
40°	184.8	184.8	184.8	184.8
42.5°	161.3	161.3	161.3	161.3
45°	134.4	134.4	134.4	134.4
47.5°	105.3	106.4	106.4	106.4
50°	80.6	80.6	80.6	80.6
52.5°	61.6	61.6	61.6	61.6
55°	48.2	48.2	48.2	48.2
57.5°	41.4	41.4	40.3	41.4
60°	37.0	37.0	35.8	37.0
62.5°	33.6	33.6	33.6	33.6
65°	30.2	30.2	30.2	30.2
67.5°	28.0	28.0	26.9	26.9
70°	24.6	24.6	23.5	23.5
72.5°	20.2	20.2	20.2	20.2
75°	16.8	16.8	16.8	16.8
77.5°	13.4	13.4	13.4	13.4
80°	10.1	10.1	10.1	10.1
82.5°	6.7	6.7	6.7	6.7
85°	4.5	4.5	4.5	4.5
87.5°	1.1	1.1	1.1	1.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)