

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P10183

Luminaire Tested: **MSN-W-120V**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



Test Information

Test Method: LM-79-08
Report Number: P10183
Test Lab: PEACHTREE CITY
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE Catalog
Number: MSN-W-120V
Description: WHITE HEALTHCARE LED NURSE READING LIGHT
WALL PLATE MOUNTING DESIGN
Light Source: MOUNTED DIRECTLY ON A WALL FACE PLATE
12 WHITE LED IN A RECTANGULAR ARRAY
Ballast/Driver: -

Luminaire Equipment:	<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
	AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
	AS-5443-2	Good	REFLECTOR
	AS-5443-3	Good	DRIVER
	AS-5443-4	Good	UPPER MODULE
	AS-5443-5	Good	LENS
	AS-5443-6	Good	DRIVER 2
	AS-5443-7	Good	TRIM RING

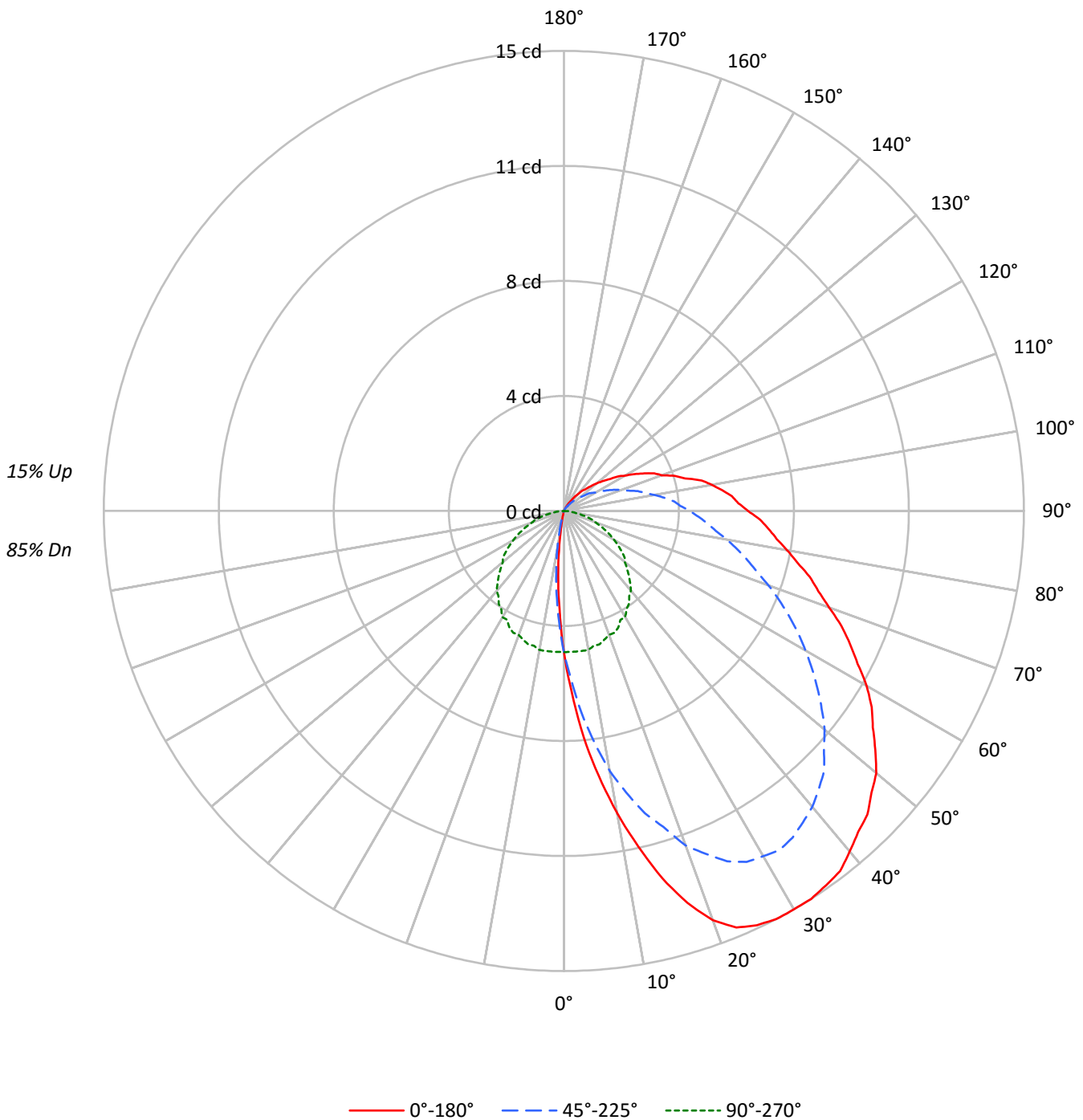
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 30.3 lumens
Efficiency: N/A
Efficacy: 10.1 lumens/watt
Spacing Criteria (0/90/45): 2.08 / 1.27 / 1.87
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Semi-Direct

Input Watts (W): 3
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

TEST NUMBER: P10183 CATALOG
NUMBER: MSN-W-120V

Luminous Intensity Polar Plot





TEST NUMBER: P10183
 CATALOG NUMBER: MSN-W-120V

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	0
RCR																		
0	116	116	116	116	111	111	111	111	103	103	103	96	96	96	89	89	89	85
1	102	96	91	86	98	92	87	83	85	81	78	79	76	73	73	70	68	65
2	92	82	74	67	87	79	71	65	73	66	61	67	62	58	62	58	54	51
3	83	71	61	54	79	68	59	53	63	56	50	58	52	47	53	49	44	41
4	75	62	52	45	71	59	50	44	55	47	41	51	44	39	47	42	37	34
5	69	55	45	38	65	53	43	37	49	41	35	45	38	33	42	36	32	29
6	63	49	39	32	60	47	38	31	44	36	30	40	34	29	38	32	27	25
7	58	44	34	28	55	42	33	27	39	32	26	37	30	25	34	28	24	21
8	54	40	31	24	51	38	30	24	36	28	23	33	27	22	31	25	21	19
9	50	36	27	22	48	35	27	21	33	25	20	30	24	19	28	23	19	17
10	47	33	25	19	45	32	24	19	30	23	18	28	22	17	26	21	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	Luminaire represents a point source (luminous area is zero).		
5°	No luminance values can be calculated.		
10°			
15°			
20°			
25°			
30°			
35°			
40°			
45°			
50°			
55°			
60°			
65°			
70°			
75°			
80°			
85°			



TEST NUMBER: P10183 CATALOG
 NUMBER: MSN-W-120V

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	0.5	1.5
10°-20°	1.5	5.0
20°-30°	2.8	9.1
30°-40°	3.7	12.3
40°-50°	4.2	14.0
50°-60°	4.2	13.8
60°-70°	3.7	12.2
70°-80°	3.0	9.9
80°-90°	2.3	7.6
90°-100°	1.7	5.8
100°-110°	1.2	4.0
110°-120°	0.8	2.5
120°-130°	0.4	1.4
130°-140°	0.2	0.7
140°-150°	0.1	0.2
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	4.7	15.5
0°-40°	8.4	27.9
0°-60°	16.8	55.6
0°-90°	25.9	85.4
90°-120°	3.7	12.3
90°-150°	4.4	14.6
90°-180°	4.0	13.2
0°-180°	30.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	5	5	5	5	5	
5°	7	7	5	3	2	1
15°	12	10	4	0	0	4
25°	15	13	4	0	0	7
35°	15	13	4	0	0	9
45°	14	12	3	0	0	11
55°	12	10	2	0	0	11
65°	10	8	2	0	0	10
75°	8	6	1	0	0	9
85°	7	5	0	0	0	6
90°	6	4	0	0	0	3
95°	6	4	0	0	0	4
105°	4	2	0	0	0	4
115°	3	2	0	0	0	3
125°	2	1	0	0	0	2
135°	1	0	0	0	0	1
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P10183 CATALOG NUMBER:
 MSN-W-120V

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
2.5°	5.9	5.9	5.9	5.8	5.7	5.5	5.4	5.2	5.0	4.7	4.6
5°	7.4	7.4	7.3	7.1	6.9	6.6	6.2	5.8	5.4	4.9	4.6
7.5°	8.7	8.8	8.6	8.4	8.0	7.6	7.0	6.4	5.7	5.0	4.6
10°	10.0	10.0	9.9	9.6	9.1	8.6	7.8	7.0	6.1	5.1	4.6
12.5°	11.2	11.2	11.0	10.6	10.1	9.4	8.5	7.5	6.4	5.2	4.5
15°	12.4	12.4	12.1	11.7	11.0	10.2	9.2	8.0	6.7	5.2	4.5
17.5°	13.4	13.4	13.2	12.6	11.9	10.8	9.8	8.4	7.0	5.3	4.4
20°	14.2	14.2	13.9	13.4	12.6	11.6	10.2	8.8	7.2	5.3	4.3
22.5°	14.7	14.6	14.4	14.0	13.2	12.1	10.7	9.1	7.4	5.4	4.3
25°	14.9	14.9	14.7	14.3	13.6	12.6	11.1	9.3	7.5	5.3	4.2
27.5°	15.0	15.0	14.8	14.5	13.9	12.9	11.4	9.5	7.6	5.3	4.0
30°	15.0	15.0	14.9	14.5	13.9	13.0	11.6	9.7	7.6	5.2	4.0
32.5°	15.0	15.0	14.8	14.5	13.9	13.1	11.7	9.7	7.6	5.2	3.8
35°	14.9	14.9	14.7	14.4	13.8	13.0	11.7	9.8	7.6	5.0	3.7
37.5°	14.8	14.8	14.6	14.2	13.6	12.8	11.6	9.7	7.4	4.9	3.5
40°	14.5	14.5	14.3	14.0	13.4	12.6	11.4	9.6	7.3	4.8	3.4
42.5°	14.2	14.2	14.0	13.7	13.1	12.3	11.2	9.4	7.1	4.6	3.2
45°	14.0	13.9	13.7	13.3	12.7	12.0	10.8	9.1	6.9	4.4	3.0
47.5°	13.6	13.6	13.3	12.9	12.3	11.5	10.5	8.8	6.6	4.1	2.8
50°	13.3	13.2	12.9	12.5	11.9	11.1	10.0	8.5	6.3	3.9	2.6
52.5°	12.8	12.8	12.5	12.0	11.4	10.6	9.6	8.1	6.0	3.7	2.5
55°	12.3	12.3	12.0	11.6	10.9	10.1	9.1	7.7	5.7	3.4	2.3
57.5°	11.9	11.9	11.5	11.0	10.4	9.6	8.6	7.3	5.4	3.2	2.1
60°	11.4	11.3	11.0	10.5	9.9	9.1	8.1	6.8	5.0	2.9	1.9
62.5°	10.8	10.8	10.5	10.0	9.4	8.6	7.6	6.4	4.6	2.6	1.7
65°	10.3	10.3	10.0	9.5	8.8	8.1	7.1	5.9	4.3	2.4	1.5
67.5°	9.8	9.7	9.5	9.0	8.4	7.6	6.6	5.5	3.9	2.1	1.3
70°	9.2	9.2	9.0	8.5	7.8	7.1	6.2	5.0	3.6	1.9	1.1
72.5°	8.7	8.7	8.5	8.0	7.4	6.6	5.7	4.6	3.2	1.6	1.0
75°	8.3	8.2	8.1	7.6	6.9	6.2	5.3	4.2	2.9	1.4	0.8
77.5°	7.8	7.8	7.6	7.1	6.5	5.8	4.9	3.8	2.5	1.1	0.6
80°	7.4	7.4	7.2	6.7	6.1	5.4	4.5	3.4	2.2	0.9	0.4
82.5°	7.0	7.0	6.8	6.4	5.8	5.0	4.2	3.1	1.9	0.7	0.3
85°	6.7	6.6	6.4	6.0	5.4	4.7	3.8	2.8	1.6	0.5	0.2
87.5°	6.4	6.3	6.1	5.7	5.1	4.4	3.5	2.5	1.4	0.4	0.1
90°	6.0	6.0	5.8	5.4	4.8	4.1	3.2	2.2	1.2	0.2	0.0
92.5°	5.7	5.7	5.5	5.1	4.5	3.8	3.0	2.0	1.0	0.2	0.0
95°	5.5	5.4	5.2	4.8	4.2	3.6	2.7	1.8	0.9	0.2	0.0
97.5°	5.2	5.2	4.9	4.5	4.0	3.3	2.5	1.6	0.8	0.1	0.0
100°	4.9	4.9	4.6	4.2	3.7	3.0	2.2	1.4	0.7	0.1	0.0
102.5°	4.6	4.5	4.3	3.9	3.4	2.7	2.0	1.3	0.6	0.1	0.0
105°	4.1	4.1	3.9	3.6	3.1	2.5	1.8	1.1	0.5	0.1	0.0
107.5°	3.8	3.8	3.6	3.3	2.8	2.2	1.6	1.0	0.5	0.1	0.0
110°	3.4	3.4	3.3	3.0	2.5	2.0	1.4	0.9	0.4	0.1	0.0



TEST NUMBER: P10183
 CATALOG NUMBER: MSN-W-120V

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	3.2	3.1	3.0	2.7	2.3	1.8	1.3	0.8	0.4	0.0	0.0
115°	2.9	2.8	2.7	2.4	2.0	1.6	1.1	0.7	0.3	0.0	0.0
117.5°	2.6	2.6	2.4	2.2	1.8	1.4	1.0	0.6	0.2	0.0	0.0
120°	2.3	2.3	2.2	1.9	1.6	1.2	0.9	0.5	0.2	0.0	0.0
122.5°	2.1	2.0	1.9	1.7	1.4	1.1	0.7	0.4	0.2	0.0	0.0
125°	1.8	1.8	1.7	1.5	1.3	1.0	0.6	0.4	0.2	0.0	0.0
127.5°	1.6	1.6	1.5	1.3	1.1	0.8	0.5	0.3	0.1	0.0	0.0
130°	1.4	1.4	1.3	1.2	0.9	0.7	0.4	0.2	0.1	0.0	0.0
132.5°	1.2	1.2	1.1	1.0	0.8	0.6	0.4	0.2	0.1	0.0	0.0
135°	1.0	1.0	1.0	0.8	0.7	0.5	0.3	0.2	0.1	0.0	0.0
137.5°	0.9	0.9	0.8	0.7	0.5	0.4	0.2	0.1	0.0	0.0	0.0
140°	0.7	0.7	0.6	0.6	0.4	0.3	0.2	0.1	0.0	0.0	0.0
142.5°	0.6	0.6	0.5	0.4	0.3	0.2	0.1	0.1	0.0	0.0	0.0
145°	0.4	0.4	0.4	0.3	0.2	0.2	0.1	0.0	0.0	0.0	0.0
147.5°	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0
150°	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
152.5°	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P10183
 CATALOG NUMBER: MSN-W-120V

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
2.5°	4.5	4.3	4.0	3.8	3.6	3.4	3.4	3.3	3.2	3.2
5°	4.4	3.8	3.4	3.0	2.7	2.4	2.3	2.2	2.1	2.1
7.5°	4.2	3.4	2.8	2.3	1.9	1.6	1.4	1.2	1.1	1.1
10°	4.0	3.0	2.3	1.7	1.2	0.8	0.6	0.4	0.3	0.3
12.5°	3.8	2.6	1.8	1.1	0.6	0.2	0.0	0.0	0.0	0.0
15°	3.6	2.3	1.4	0.6	0.1	0.0	0.0	0.0	0.0	0.0
17.5°	3.4	2.0	1.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
20°	3.3	1.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.5°	3.1	1.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25°	2.9	1.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.5°	2.7	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30°	2.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.5°	2.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35°	2.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.5°	2.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40°	1.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.5°	1.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45°	1.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.5°	1.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50°	1.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52.5°	1.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55°	1.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57.5°	1.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60°	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65°	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.1	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
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P10183
 CATALOG NUMBER: MSN-W-120V

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)