

Scaled data based on original data using
LM-66-11 Electrical and Photometric Measurements of Single-Ended Compact
Fluorescent Lamps

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: SHAPER

Report Number: 19161

Luminaire Tested: **666-WP-16-CF1/27**

Issue Date: 3/3/2020

Test Information

Test Method: LM-66-11
Report Number: 19161
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: SHAPER
Catalog Number: 666-WP-16-CF1/27
Description: EXTERIOR WALL MOUNT LUMINAIRE WITH WHITE INTERIOR AND WHITE PLASTIC LENS
Light Source: ONE GE 27 WATT CPFL LAMP

F27/24BX/SPX35. LUMEN RATING = 1800 LMS.

Ballast/Driver: -

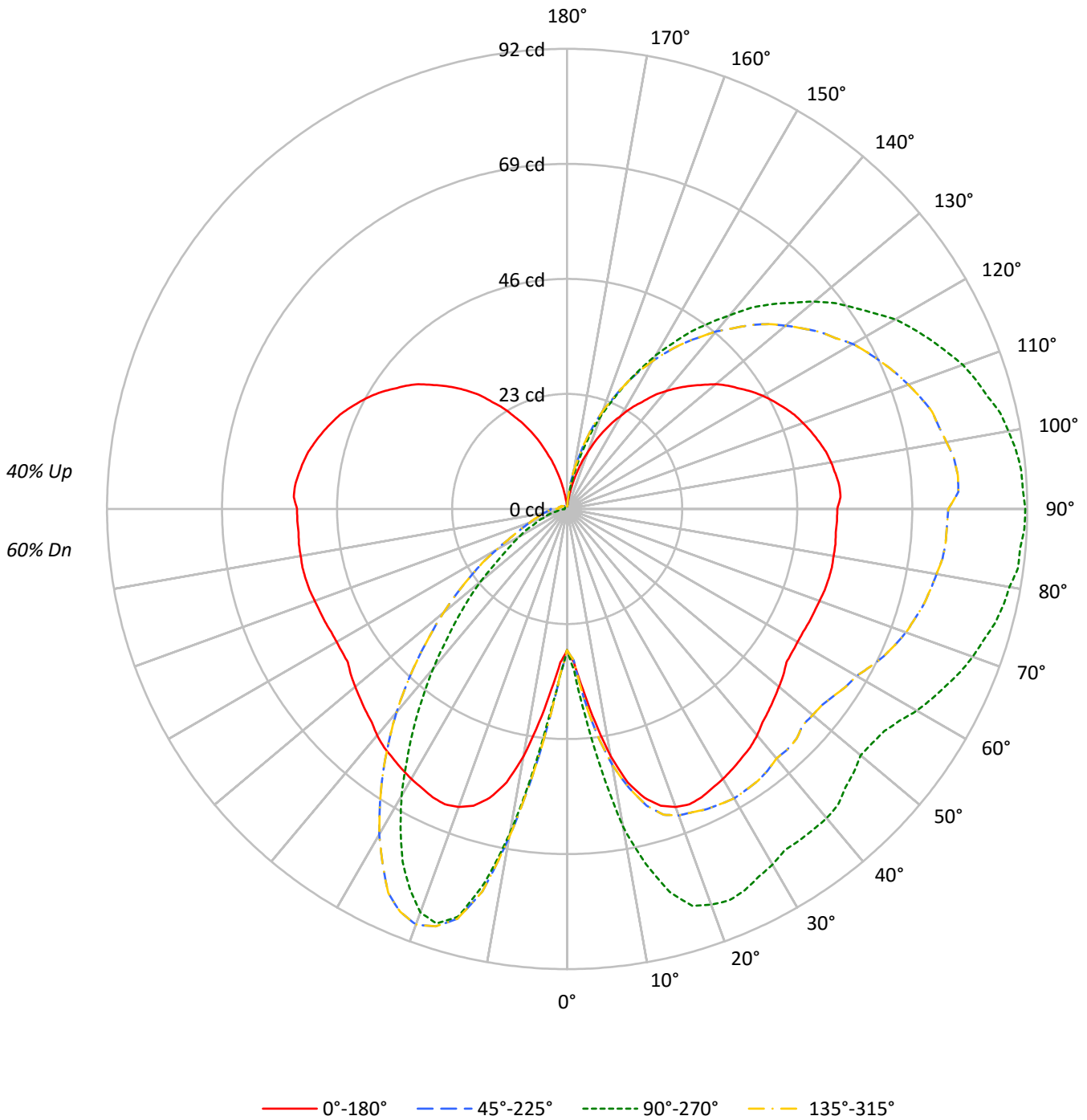
Summary

Lumens per Lamp: 1800 (1 lamp)
Luminaire Lumens: 540.8 lumens
Efficiency: 30.0%
Efficacy: 21.6 lumens/watt
Spacing Criteria (0/90/45): 2.43 / 2.31 / 2.15
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 0.42' x H: 1.25')
CIE Type: Semi-Direct

Input Watts (W): 25
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	50	30	10	50	30	10	50	30	10	0																
RCR																																														
0	33	33	33	33	31	31	31	31	27	27	27	23	23	23	20	20	20	20	20	20	20	20	20	20	20	20	20	20	18																	
1	29	27	25	24	27	25	24	22	22	20	19	18	18	17	15	15	14	15	15	14	15	15	14	15	15	14	15	15	14	13																
2	26	23	21	19	24	21	19	17	18	17	15	16	14	13	13	12	11	13	12	11	13	12	11	13	12	11	10	10	8																	
3	23	20	17	15	22	18	16	14	16	14	12	13	12	11	11	10	9	11	10	9	11	10	9	11	10	9	8	8	6																	
4	21	17	15	12	20	16	14	12	14	12	10	12	10	9	10	9	8	10	9	8	10	9	8	10	9	8	7	7	5																	
5	19	15	13	11	18	14	12	10	12	10	9	11	9	8	9	8	6	11	9	8	9	8	6	11	9	8	5	5	3																	
6	18	14	11	9	16	13	10	9	11	9	8	9	8	7	8	7	6	11	9	8	9	8	6	11	9	8	5	5	3																	
7	16	12	10	8	15	12	9	7	10	8	7	9	7	6	7	6	5	10	8	7	9	7	6	10	8	7	4	4	2																	
8	15	11	9	7	14	10	8	7	9	7	6	8	6	5	7	5	4	9	7	6	8	6	5	9	7	6	4	4	2																	
9	14	10	8	6	13	10	7	6	8	6	5	7	6	5	6	5	4	8	6	5	7	6	5	8	6	5	3	3	1																	
10	13	9	7	5	12	9	7	5	8	6	5	7	5	4	6	4	3	7	5	4	6	4	3	7	5	4	3	3	1																	

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	2891	2891	2891	2891
5°	2956	2971	2956	2985
10°	3427	3574	3427	3640
15°	3531	3597	3531	3828
20°	3320	3257	3320	3319
25°	3013	2855	3013	2641
30°	2713	2500	2713	2016
35°	2467	2249	2467	1488
40°	2261	2079	2261	1074
45°	2078	1902	2078	751
50°	1940	1756	1940	518
55°	1821	1699	1821	336
60°	1772	1713	1772	233
65°	1755	1730	1755	151
70°	1754	1755	1754	96
75°	1770	1783	1770	66
80°	1786	1806	1786	36
85°	1810	1839	1810	14



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	4.4	0.8	0.2
10°-20°	20.0	3.7	1.1
20°-30°	33.9	6.3	1.9
30°-40°	40.7	7.5	2.3
40°-50°	42.5	7.9	2.4
50°-60°	42.8	7.9	2.4
60°-70°	45.0	8.3	2.5
70°-80°	47.9	8.9	2.7
80°-90°	49.4	9.1	2.7
90°-100°	49.8	9.2	2.8
100°-110°	46.4	8.6	2.6
110°-120°	40.0	7.4	2.2
120°-130°	31.8	5.9	1.8
130°-140°	22.9	4.2	1.3
140°-150°	14.1	2.6	0.8
150°-160°	6.9	1.3	0.4
160°-170°	2.1	0.4	0.1
170°-180°	0.2	0.0	0.0
0°-30°	58.3	10.8	3.2
0°-40°	99.0	18.3	5.5
0°-60°	184.3	34.1	10.2
0°-90°	326.6	60.4	18.1
90°-120°	136.2	25.2	7.6
90°-150°	205.0	37.9	11.4
90°-180°	214.0	39.6	11.9
0°-180°	540.8	100.0	30.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	28	28	28	28	28	
5°	36	42	36	42	36	4
15°	60	79	60	84	60	17
25°	64	84	64	78	64	29
35°	61	81	61	54	61	38
45°	57	79	57	31	57	44
55°	54	77	54	15	54	48
65°	53	84	53	7	53	53
75°	54	88	54	3	54	57
85°	54	91	54	1	54	44
90°	54	92	54	0	54	30
95°	55	91	55	0	55	44
105°	52	87	52	0	52	55
115°	48	80	48	0	48	48
125°	42	70	42	0	42	38
135°	35	58	35	0	35	27
145°	26	43	26	0	26	17
155°	17	27	17	0	17	8
165°	8	12	8	0	8	2
175°	1	2	1	0	1	0
180°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2
2.5°	30.7	29.4	30.3	31.9	32.4	31.9	30.3	29.4	30.7	32.3	33.3
5°	36.2	35.1	37.7	40.3	41.5	40.3	37.7	35.1	36.2	41.3	42.8
7.5°	43.0	41.1	45.4	50.8	52.6	50.8	45.4	41.1	43.0	51.3	54.2
10°	50.2	46.5	51.9	60.7	64.6	60.7	51.9	46.5	50.2	61.6	66.5
12.5°	56.0	51.8	57.1	68.4	72.7	68.4	57.1	51.8	56.0	69.4	78.3
15°	59.8	56.9	61.4	73.5	79.3	73.5	61.4	56.9	59.8	75.3	84.8
17.5°	62.2	60.3	64.1	76.3	83.2	76.3	64.1	60.3	62.2	77.9	87.5
20°	63.4	61.6	65.2	78.1	84.2	78.1	65.2	61.6	63.4	79.2	88.4
22.5°	63.9	62.5	65.6	78.2	84.7	78.2	65.6	62.5	63.9	79.2	87.2
25°	63.6	63.5	66.2	77.8	84.1	77.8	66.2	63.5	63.6	78.4	84.7
27.5°	62.9	64.9	66.5	77.2	82.9	77.2	66.5	64.9	62.9	76.5	79.9
30°	62.3	65.5	66.8	77.0	82.1	77.0	66.8	65.5	62.3	73.8	75.1
32.5°	61.6	65.8	66.6	76.2	80.9	76.2	66.6	65.8	61.6	70.3	69.6
35°	60.8	65.8	66.4	75.6	80.9	75.6	66.4	65.8	60.8	67.3	64.2
37.5°	60.1	64.9	65.9	74.5	80.8	74.5	65.9	64.9	60.1	63.8	58.5
40°	59.1	64.1	65.1	72.6	80.7	72.6	65.1	64.1	59.1	60.5	53.1
42.5°	57.8	64.1	65.2	71.6	80.2	71.6	65.2	64.1	57.8	57.0	47.4
45°	57.0	63.4	64.9	70.4	78.7	70.4	64.9	63.4	57.0	53.8	42.0
47.5°	56.1	63.1	63.9	69.7	77.8	69.7	63.9	63.1	56.1	50.8	36.9
50°	55.3	62.9	64.1	69.0	76.6	69.0	64.1	62.9	55.3	48.0	32.3
52.5°	54.5	62.7	64.3	68.4	76.9	68.4	64.3	62.7	54.5	45.1	27.8
55°	53.5	63.2	65.1	69.1	77.4	69.1	65.1	63.2	53.5	42.8	23.6
57.5°	53.3	63.7	66.1	69.8	78.8	69.8	66.1	63.7	53.3	40.3	20.1
60°	53.2	64.3	66.8	71.0	80.7	71.0	66.8	64.3	53.2	38.4	16.3
62.5°	53.2	65.2	68.3	72.5	82.2	72.5	68.3	65.2	53.2	36.4	13.3
65°	53.4	66.1	69.8	73.5	83.6	73.5	69.8	66.1	53.4	34.9	11.0
67.5°	53.5	66.8	71.0	74.8	85.1	74.8	71.0	66.8	53.5	34.0	9.3
70°	53.7	67.8	72.1	75.9	86.3	75.9	72.1	67.8	53.7	33.4	7.9
72.5°	54.0	68.5	72.9	77.4	87.3	77.4	72.9	68.5	54.0	33.0	7.1
75°	54.1	69.1	73.8	78.3	88.5	78.3	73.8	69.1	54.1	32.6	6.0
77.5°	54.2	69.6	74.4	79.0	89.3	79.0	74.4	69.6	54.2	32.0	5.5
80°	54.1	70.1	75.0	79.7	89.8	79.7	75.0	70.1	54.1	31.8	4.8
82.5°	54.1	70.2	75.7	80.0	90.9	80.0	75.7	70.2	54.1	31.2	4.1
85°	53.9	70.5	76.0	80.5	90.9	80.5	76.0	70.5	53.9	31.1	3.7
87.5°	54.0	70.2	76.0	80.9	91.5	80.9	76.0	70.2	54.0	30.8	3.3
90°	54.0	70.2	76.2	80.9	91.6	80.9	76.2	70.2	54.0	30.6	3.3
92.5°	54.7	74.6	78.3	84.7	91.2	84.7	78.3	74.6	54.7	27.0	1.7
95°	54.6	74.3	78.4	84.7	91.1	84.7	78.4	74.3	54.6	26.9	1.8
97.5°	54.1	73.8	78.0	84.1	90.5	84.1	78.0	73.8	54.1	26.5	1.7
100°	53.6	73.0	77.0	83.1	89.6	83.1	77.0	73.0	53.6	26.3	1.6
102.5°	53.0	72.2	76.1	82.3	88.7	82.3	76.1	72.2	53.0	26.0	1.7
105°	52.1	71.6	75.5	80.8	87.0	80.8	75.5	71.6	52.1	25.5	1.3
107.5°	51.2	70.4	74.1	79.5	85.7	79.5	74.1	70.4	51.2	25.0	1.5
110°	50.2	68.9	72.6	78.3	84.2	78.3	72.6	68.9	50.2	24.4	1.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	49.2	67.7	71.1	76.2	82.1	76.2	71.1	67.7	49.2	23.6	1.3
115°	47.9	66.0	69.4	74.6	80.1	74.6	69.4	66.0	47.9	22.8	1.3
117.5°	46.6	64.1	67.7	72.2	78.0	72.2	67.7	64.1	46.6	22.2	1.2
120°	45.2	62.4	66.0	70.0	75.8	70.0	66.0	62.4	45.2	21.1	1.2
122.5°	43.7	60.6	63.6	68.0	72.8	68.0	63.6	60.6	43.7	20.5	1.0
125°	42.0	58.4	61.7	65.5	70.1	65.5	61.7	58.4	42.0	19.4	1.0
127.5°	40.5	56.6	59.3	62.5	67.6	62.5	59.3	56.6	40.5	18.7	0.7
130°	38.8	54.3	57.0	59.7	64.5	59.7	57.0	54.3	38.8	17.7	0.7
132.5°	36.7	51.5	54.7	57.0	61.0	57.0	54.7	51.5	36.7	16.6	0.9
135°	34.8	48.9	52.0	54.1	57.9	54.1	52.0	48.9	34.8	15.6	0.5
137.5°	32.8	46.4	49.0	51.0	54.6	51.0	49.0	46.4	32.8	14.6	0.5
140°	30.8	44.0	46.3	47.3	50.5	47.3	46.3	44.0	30.8	13.3	0.5
142.5°	28.7	41.2	43.2	44.0	46.9	44.0	43.2	41.2	28.7	12.2	0.5
145°	26.1	38.2	40.4	40.7	43.3	40.7	40.4	38.2	26.1	10.9	0.6
147.5°	24.0	35.2	37.3	37.0	39.3	37.0	37.3	35.2	24.0	9.8	0.5
150°	21.5	32.3	34.1	33.7	35.5	33.7	34.1	32.3	21.5	8.3	0.5
152.5°	19.4	29.1	30.8	30.0	31.3	30.0	30.8	29.1	19.4	7.2	0.6
155°	17.0	25.7	27.5	26.6	27.3	26.6	27.5	25.7	17.0	5.9	0.5
157.5°	14.7	22.8	23.9	22.9	23.3	22.9	23.9	22.8	14.7	5.2	0.5
160°	12.0	19.3	20.8	19.2	19.9	19.2	20.8	19.3	12.0	4.0	0.5
162.5°	10.0	16.1	17.4	15.8	16.0	15.8	17.4	16.1	10.0	2.8	0.5
165°	7.5	12.8	14.0	12.5	12.2	12.5	14.0	12.8	7.5	2.3	0.5
167.5°	5.5	9.8	10.5	9.4	8.6	9.4	10.5	9.8	5.5	1.5	0.5
170°	3.4	7.1	7.7	6.4	5.8	6.4	7.7	7.1	3.4	0.9	0.5
172.5°	2.0	4.2	5.0	4.0	3.5	4.0	5.0	4.2	2.0	0.5	0.5
175°	0.9	2.4	2.6	1.9	1.5	1.9	2.6	2.4	0.9	0.5	0.5
177.5°	0.6	0.7	0.7	0.6	0.5	0.6	0.7	0.7	0.6	0.5	0.5
180°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	28.2	28.2	28.2	28.2	28.2	28.2
2.5°	33.7	33.5	33.7	33.3	32.3	30.7
5°	43.0	41.7	43.0	42.8	41.3	36.2
7.5°	53.8	53.1	53.8	54.2	51.3	43.0
10°	64.9	65.8	64.9	66.5	61.6	50.2
12.5°	72.9	76.7	72.9	78.3	69.4	56.0
15°	79.7	84.4	79.7	84.8	75.3	59.8
17.5°	82.6	86.9	82.6	87.5	77.9	62.2
20°	82.8	85.8	82.8	88.4	79.2	63.4
22.5°	80.2	82.2	80.2	87.2	79.2	63.9
25°	75.8	77.8	75.8	84.7	78.4	63.6
27.5°	70.7	72.1	70.7	79.9	76.5	62.9
30°	65.5	66.2	65.5	75.1	73.8	62.3
32.5°	59.6	59.6	59.6	69.6	70.3	61.6
35°	54.0	53.5	54.0	64.2	67.3	60.8
37.5°	47.9	47.4	47.9	58.5	63.8	60.1
40°	42.3	41.7	42.3	53.1	60.5	59.1
42.5°	37.3	35.9	37.3	47.4	57.0	57.8
45°	32.5	31.1	32.5	42.0	53.8	57.0
47.5°	27.9	26.7	27.9	36.9	50.8	56.1
50°	23.4	22.6	23.4	32.3	48.0	55.3
52.5°	19.6	18.4	19.6	27.8	45.1	54.5
55°	15.8	15.3	15.8	23.6	42.8	53.5
57.5°	12.8	13.0	12.8	20.1	40.3	53.3
60°	11.0	11.0	11.0	16.3	38.4	53.2
62.5°	9.1	9.4	9.1	13.3	36.4	53.2
65°	7.5	7.3	7.5	11.0	34.9	53.4
67.5°	5.9	6.1	5.9	9.3	34.0	53.5
70°	4.8	4.7	4.8	7.9	33.4	53.7
72.5°	3.8	4.1	3.8	7.1	33.0	54.0
75°	2.9	3.3	2.9	6.0	32.6	54.1
77.5°	2.1	2.2	2.1	5.5	32.0	54.2
80°	1.5	1.8	1.5	4.8	31.8	54.1
82.5°	0.7	1.3	0.7	4.1	31.2	54.1
85°	0.5	0.7	0.5	3.7	31.1	53.9
87.5°	0.5	0.5	0.5	3.3	30.8	54.0
90°	0.5	0.5	0.5	3.3	30.6	54.0
92.5°	0.7	0.5	0.7	1.7	27.0	54.7
95°	0.6	0.5	0.6	1.8	26.9	54.6
97.5°	0.6	0.5	0.6	1.7	26.5	54.1
100°	0.5	0.5	0.5	1.6	26.3	53.6
102.5°	0.6	0.5	0.6	1.7	26.0	53.0
105°	0.5	0.5	0.5	1.3	25.5	52.1
107.5°	0.5	0.5	0.5	1.5	25.0	51.2
110°	0.5	0.5	0.5	1.2	24.4	50.2



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CATALOG NUMBER: 666-WP-16-CF1/27

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	0.6	0.5	0.6	1.3	23.6	49.2
115°	0.6	0.5	0.6	1.3	22.8	47.9
117.5°	0.5	0.5	0.5	1.2	22.2	46.6
120°	0.6	0.5	0.6	1.2	21.1	45.2
122.5°	0.5	0.5	0.5	1.0	20.5	43.7
125°	0.6	0.5	0.6	1.0	19.4	42.0
127.5°	0.5	0.5	0.5	0.7	18.7	40.5
130°	0.5	0.5	0.5	0.7	17.7	38.8
132.5°	0.5	0.5	0.5	0.9	16.6	36.7
135°	0.5	0.5	0.5	0.5	15.6	34.8
137.5°	0.5	0.5	0.5	0.5	14.6	32.8
140°	0.5	0.5	0.5	0.5	13.3	30.8
142.5°	0.5	0.5	0.5	0.5	12.2	28.7
145°	0.5	0.5	0.5	0.6	10.9	26.1
147.5°	0.5	0.5	0.5	0.5	9.8	24.0
150°	0.5	0.5	0.5	0.5	8.3	21.5
152.5°	0.5	0.5	0.5	0.6	7.2	19.4
155°	0.5	0.5	0.5	0.5	5.9	17.0
157.5°	0.5	0.5	0.5	0.5	5.2	14.7
160°	0.5	0.5	0.5	0.5	4.0	12.0
162.5°	0.5	0.5	0.5	0.5	2.8	10.0
165°	0.5	0.5	0.5	0.5	2.3	7.5
167.5°	0.5	0.5	0.5	0.5	1.5	5.5
170°	0.5	0.5	0.5	0.5	0.9	3.4
172.5°	0.5	0.5	0.5	0.5	0.5	2.0
175°	0.5	0.5	0.5	0.5	0.5	0.9
177.5°	0.5	0.5	0.5	0.5	0.5	0.6
180°	0.5	0.5	0.5	0.5	0.5	0.5

(END OF REPORT)