

Scaled data based on original data using  
LM-46-04 Photometric Testing of Indoor Luminaires Using High Intensity Discharge or  
Incandescent Filament Lamps (Reaffirmed 2012)

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: SHAPER

Report Number: 253p382

Luminaire Tested: **440-INC/4/75-120V-30**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-46-04  
Report Number: 253p382  
Test Lab: METALUX RESEARCH LABS  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: SHAPER  
Catalog Number: 440-INC/4/75-120V-30  
Description: SHAPER CRAFTSMAN LUMINOUS FLARED DIRECT/INDIRECT SQUARE. 4  
BAY, 1 LAMP INCANDESCENT PER EACH SIDE.  
Light Source: FOUR INCANDESCENT LAMPS  
A75INC 75 WATT  
Ballast/Driver: -

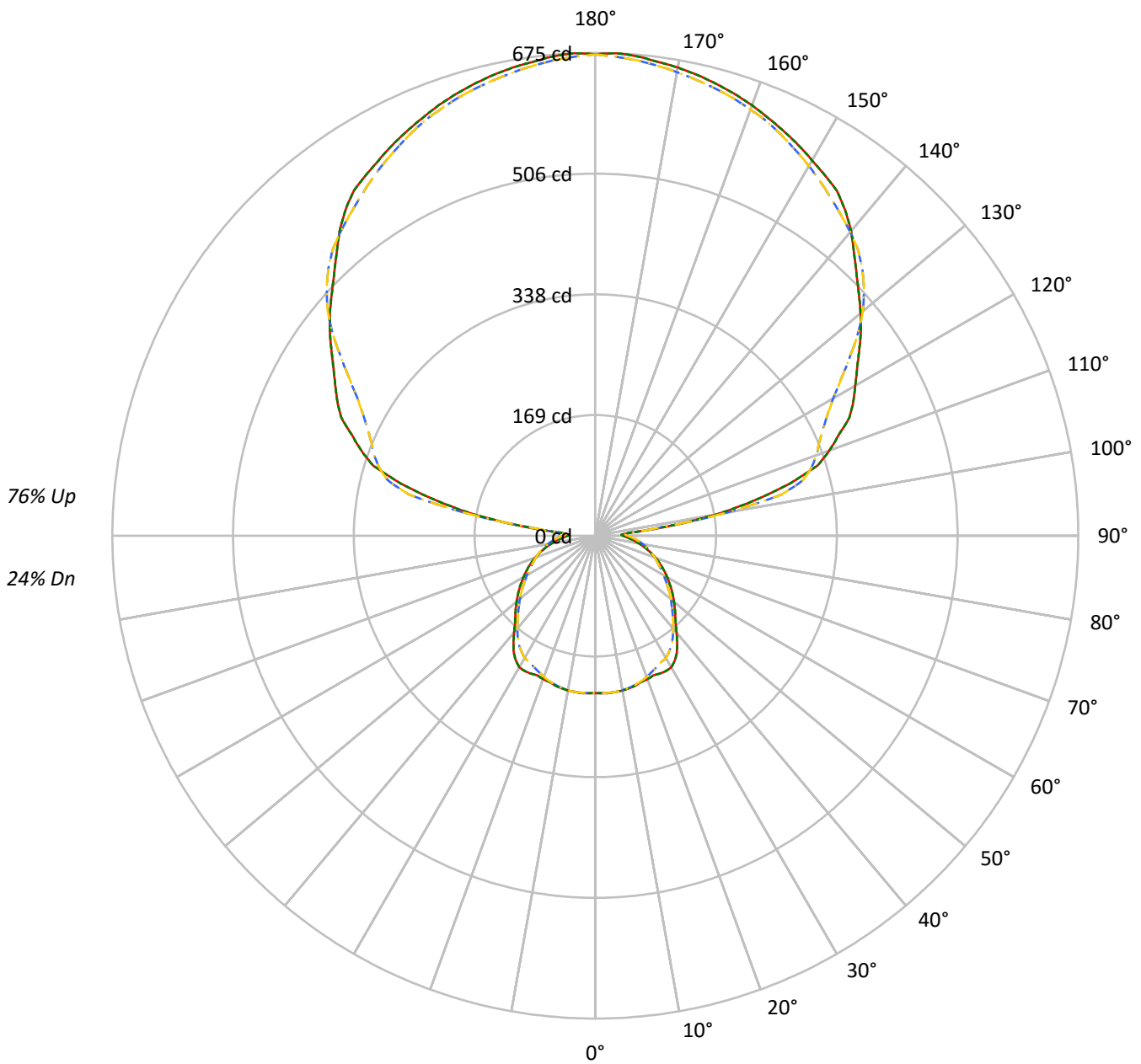
**Summary**

Lumens per Lamp: 1170 (4 lamps)  
Luminaire Lumens: 3200.9 lumens  
Efficiency: 68.4%  
Efficacy: 42.1 lumens/watt  
Spacing Criteria (0/90/45): 1.39 / 1.39 / 1.4  
Luminous Opening: Rectangular w/ Sides (W: 3' x L: 3' x H: 1.25')  
CIE Type: Semi-Indirect

Input Watts (W): 76  
Input Voltage (V): NR  
Input Current (Ain): 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



— 0°-180°    - - 45°-225°    - - - 90°-270°    - - - 135°-315°



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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	0
RCR																		
0	69	69	69	69	61	61	61	61	47	47	47	34	34	34	22	22	22	16
1	62	59	57	54	55	53	50	48	40	39	37	29	28	27	19	18	18	13
2	57	51	47	44	50	46	42	39	35	33	31	25	24	22	16	15	14	10
3	51	45	40	36	45	40	36	33	31	28	25	22	20	19	14	13	12	9
4	47	40	34	30	41	35	31	27	27	24	21	20	18	16	13	11	10	7
5	43	35	30	26	38	31	27	23	24	21	18	17	15	14	11	10	9	6
6	39	31	26	22	35	28	23	20	22	18	16	16	13	12	10	9	8	5
7	36	28	23	19	32	25	21	17	20	16	14	14	12	10	9	8	7	5
8	34	25	20	17	30	23	18	15	18	14	12	13	11	9	8	7	6	4
9	31	23	18	15	28	21	16	13	16	13	11	12	10	8	8	6	5	4
10	29	21	16	13	26	19	15	12	15	12	10	11	9	7	7	6	5	3

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	263	263	263	263
5°	256	256	256	256
10°	248	248	248	248
15°	241	241	241	241
20°	236	236	236	236
25°	235	235	235	235
30°	236	236	236	236
35°	225	225	225	225
40°	204	204	204	204
45°	189	189	189	189
50°	179	179	179	179
55°	170	170	170	170
60°	161	161	161	161
65°	154	154	154	154
70°	146	146	146	146
75°	137	137	137	137
80°	127	127	127	127
85°	117	117	117	117



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	21.0	0.7	0.4
10°-20°	61.0	1.9	1.3
20°-30°	95.8	3.0	2.0
30°-40°	120.2	3.8	2.6
40°-50°	120.6	3.8	2.6
50°-60°	113.2	3.5	2.4
60°-70°	99.6	3.1	2.1
70°-80°	80.7	2.5	1.7
80°-90°	58.2	1.8	1.2
90°-100°	82.0	2.6	1.8
100°-110°	287.2	9.0	6.1
110°-120°	368.5	11.5	7.9
120°-130°	397.2	12.4	8.5
130°-140°	400.3	12.5	8.6
140°-150°	363.0	11.3	7.8
150°-160°	285.5	8.9	6.1
160°-170°	183.3	5.7	3.9
170°-180°	63.5	2.0	1.4
0°-30°	177.9	5.6	3.8
0°-40°	298.1	9.3	6.4
0°-60°	531.9	16.6	11.4
0°-90°	770.4	24.1	16.5
90°-120°	737.6	23.0	15.8
90°-150°	1898.2	59.3	40.6
90°-180°	2431.0	75.9	51.9
0°-180°	3200.9	100.0	68.4

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	220	220	220	220	220	
5°	221	221	221	221	221	21
15°	217	217	217	217	217	61
25°	213	213	213	213	213	98
35°	199	199	199	199	199	123
45°	158	158	158	158	158	123
55°	130	130	130	130	130	116
65°	103	103	103	103	103	102
75°	76	76	76	76	76	80
85°	49	49	49	49	49	43
90°	39	39	39	39	39	22
95°	47	47	47	47	47	70
105°	281	281	281	281	281	289
115°	392	392	392	392	392	384
125°	450	450	450	450	450	404
135°	516	516	516	516	516	400
145°	589	589	589	589	589	367
155°	624	624	624	624	624	288
165°	654	654	654	654	654	185
175°	673	673	673	673	673	64
180°	673	673	673	673	673	



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**CANDELA DISTRIBUTION (FULL):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0
2.5°	220.4	221.0	221.6	220.0	220.2	220.2	220.5	220.0	220.2	220.4	221.0
5°	220.7	221.2	221.3	220.3	220.3	220.4	220.7	220.3	220.5	220.7	221.2
7.5°	220.1	220.6	220.8	220.1	220.3	220.2	220.4	220.0	220.1	220.1	220.6
10°	219.6	220.0	220.2	219.1	219.2	219.3	219.5	219.2	219.4	219.6	220.0
12.5°	218.4	218.8	218.6	217.8	218.0	217.8	218.0	217.9	218.1	218.4	218.8
15°	216.7	216.9	216.7	215.7	215.7	215.7	216.1	215.8	216.0	216.7	216.9
17.5°	214.0	214.0	214.2	213.1	213.2	212.9	213.1	213.4	213.5	214.0	214.0
20°	213.4	212.6	211.0	209.8	209.8	210.0	210.2	210.2	212.0	213.4	212.6
22.5°	211.3	210.8	208.4	206.6	206.3	206.0	206.5	209.2	210.2	211.3	210.8
25°	212.7	211.5	209.1	203.3	203.1	202.5	203.4	209.0	212.4	212.7	211.5
27.5°	213.3	211.8	205.2	203.0	198.3	199.5	204.6	204.5	210.4	213.3	211.8
30°	212.4	210.1	204.5	202.0	197.4	197.7	199.0	203.6	206.6	212.4	210.1
32.5°	206.8	204.7	203.7	196.8	192.3	191.8	196.6	202.8	204.3	206.8	204.7
35°	198.9	198.2	198.2	190.6	185.3	187.0	193.9	197.0	198.6	198.9	198.2
37.5°	187.7	187.1	188.2	183.3	177.3	178.6	185.9	186.6	187.9	187.7	187.1
40°	176.7	176.7	177.3	173.2	168.9	170.4	174.5	175.4	176.6	176.7	176.7
42.5°	166.1	165.9	166.3	163.3	160.3	160.8	163.7	165.0	165.7	166.1	165.9
45°	158.1	157.8	156.2	154.4	152.8	152.4	154.0	155.5	156.6	158.1	157.8
47.5°	150.8	150.8	149.3	146.9	144.9	144.5	145.6	147.5	149.5	150.8	150.8
50°	143.6	143.5	142.0	139.5	137.9	137.2	138.3	140.1	141.8	143.6	143.5
52.5°	136.7	136.1	134.5	131.9	130.6	130.2	131.3	132.9	134.9	136.7	136.1
55°	129.7	129.1	127.3	125.0	123.6	123.0	124.5	126.2	128.1	129.7	129.1
57.5°	122.6	122.0	120.5	118.1	116.6	116.4	118.0	119.6	121.2	122.6	122.0
60°	116.0	115.3	113.7	111.3	110.4	110.2	111.3	113.1	114.6	116.0	115.3
62.5°	109.6	108.6	107.1	105.3	104.1	104.2	105.1	106.9	108.2	109.6	108.6
65°	102.9	102.1	100.7	99.4	98.5	98.1	99.3	100.7	101.9	102.9	102.1
67.5°	96.2	95.5	94.4	93.4	93.2	93.0	93.6	94.4	95.3	96.2	95.5
70°	89.4	88.8	88.0	88.0	88.3	88.1	87.8	88.0	88.6	89.4	88.8
72.5°	82.6	82.2	82.1	82.2	83.3	83.2	82.1	81.6	81.7	82.6	82.2
75°	75.6	75.4	75.7	77.0	78.2	78.0	76.8	75.2	74.9	75.6	75.4
77.5°	68.7	68.9	69.8	71.6	72.9	72.9	71.6	69.2	68.3	68.7	68.9
80°	61.9	62.4	64.1	66.1	67.6	67.4	66.3	63.9	61.9	61.9	62.4
82.5°	55.3	56.2	58.6	60.8	62.1	62.0	61.0	58.8	55.9	55.3	56.2
85°	49.0	50.3	53.1	55.3	56.4	56.5	55.6	53.5	50.3	49.0	50.3
87.5°	43.2	44.8	47.4	49.3	50.6	50.7	49.9	48.0	45.0	43.2	44.8
90°	38.7	39.8	42.1	43.9	45.1	45.2	44.4	42.6	40.3	38.7	39.8
92.5°	36.4	36.7	38.7	40.5	40.8	41.5	41.9	39.7	37.2	36.4	36.7
95°	47.2	47.7	53.6	54.4	44.9	48.8	59.4	56.0	51.8	47.2	47.7
97.5°	106.0	98.3	103.5	113.4	95.6	96.4	108.9	97.1	99.6	106.0	98.3
100°	172.2	163.9	173.8	191.1	186.8	186.4	178.9	156.5	156.4	172.2	163.9
102.5°	227.4	218.5	227.6	247.1	265.7	267.6	235.9	214.2	209.6	227.4	218.5
105°	281.0	272.5	280.8	295.8	302.5	299.0	284.1	270.4	267.0	281.0	272.5
107.5°	325.3	316.4	318.6	319.3	317.7	315.6	308.0	306.7	314.3	325.3	316.4
110°	348.0	338.4	336.2	335.7	331.8	326.1	323.9	326.2	336.5	348.0	338.4



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**CANDELA DISTRIBUTION (continued):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
112.5°	368.2	362.1	368.6	351.8	343.1	333.6	334.3	362.4	362.0	368.2	362.1
115°	392.1	386.8	393.8	371.1	357.7	343.1	345.8	384.2	385.8	392.1	386.8
117.5°	406.4	402.7	405.6	395.4	374.0	357.2	368.6	395.6	399.9	406.4	402.7
120°	419.5	416.3	416.8	417.3	391.4	375.6	395.4	409.4	413.5	419.5	416.3
122.5°	433.5	430.5	430.4	434.5	413.7	400.2	421.7	425.5	428.5	433.5	430.5
125°	450.0	447.3	447.2	447.5	438.3	428.6	442.8	443.1	445.1	450.0	447.3
127.5°	467.8	465.5	462.8	461.2	463.1	461.2	460.2	460.1	463.0	467.8	465.5
130°	484.1	480.6	476.3	477.3	486.4	489.8	479.2	476.0	479.2	484.1	480.6
132.5°	499.6	495.4	493.7	497.4	506.9	511.6	499.4	494.2	495.6	499.6	495.4
135°	516.2	513.2	513.3	518.3	528.1	527.4	518.7	513.9	514.3	516.2	513.2
137.5°	535.2	534.1	534.2	540.5	546.9	539.1	535.6	533.0	533.1	535.2	534.1
140°	555.9	554.1	555.9	561.0	558.9	549.6	549.1	549.4	552.0	555.9	554.1
142.5°	573.8	572.2	573.5	573.8	568.2	561.0	561.2	563.6	568.6	573.8	572.2
145°	588.7	586.1	584.3	583.3	578.1	572.0	571.1	574.6	581.2	588.7	586.1
147.5°	597.4	594.9	593.9	593.4	588.8	583.8	582.0	584.7	589.7	597.4	594.9
150°	605.9	603.7	602.5	603.1	599.0	594.9	593.4	594.6	599.6	605.9	603.7
152.5°	615.3	612.8	610.5	612.0	609.3	604.9	603.9	604.4	608.5	615.3	612.8
155°	623.8	620.7	618.5	620.7	619.0	615.5	613.8	613.6	617.4	623.8	620.7
157.5°	632.0	629.4	628.3	629.0	628.1	625.4	622.7	623.0	626.3	632.0	629.4
160°	640.4	637.7	635.4	636.8	635.4	632.8	631.3	631.0	635.1	640.4	637.7
162.5°	647.6	645.3	642.6	643.0	642.4	640.0	638.0	638.6	642.3	647.6	645.3
165°	653.8	651.1	648.3	648.9	648.2	646.5	645.0	646.1	649.4	653.8	651.1
167.5°	659.7	656.3	654.2	653.8	653.3	652.3	650.7	651.8	654.8	659.7	656.3
170°	664.6	661.4	659.1	658.8	658.3	657.6	656.2	657.6	660.5	664.6	661.4
172.5°	668.2	665.3	662.4	663.0	663.1	662.8	661.4	662.0	664.0	668.2	665.3
175°	672.8	668.7	666.5	667.6	667.2	667.2	665.6	666.2	668.4	672.8	668.7
177.5°	675.4	671.4	669.5	670.9	670.0	670.3	669.0	669.2	671.1	675.4	671.4
180°	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8



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**CANDELA DISTRIBUTION (continued):**

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0
2.5°	221.6	220.0	220.2	220.2	220.5	220.0	220.2	220.4	221.0	221.6	220.0
5°	221.3	220.3	220.3	220.4	220.7	220.3	220.5	220.7	221.2	221.3	220.3
7.5°	220.8	220.1	220.3	220.2	220.4	220.0	220.1	220.1	220.6	220.8	220.1
10°	220.2	219.1	219.2	219.3	219.5	219.2	219.4	219.6	220.0	220.2	219.1
12.5°	218.6	217.8	218.0	217.8	218.0	217.9	218.1	218.4	218.8	218.6	217.8
15°	216.7	215.7	215.7	215.7	216.1	215.8	216.0	216.7	216.9	216.7	215.7
17.5°	214.2	213.1	213.2	212.9	213.1	213.4	213.5	214.0	214.0	214.2	213.1
20°	211.0	209.8	209.8	210.0	210.2	210.2	212.0	213.4	212.6	211.0	209.8
22.5°	208.4	206.6	206.3	206.0	206.5	209.2	210.2	211.3	210.8	208.4	206.6
25°	209.1	203.3	203.1	202.5	203.4	209.0	212.4	212.7	211.5	209.1	203.3
27.5°	205.2	203.0	198.3	199.5	204.6	204.5	210.4	213.3	211.8	205.2	203.0
30°	204.5	202.0	197.4	197.7	199.0	203.6	206.6	212.4	210.1	204.5	202.0
32.5°	203.7	196.8	192.3	191.8	196.6	202.8	204.3	206.8	204.7	203.7	196.8
35°	198.2	190.6	185.3	187.0	193.9	197.0	198.6	198.9	198.2	198.2	190.6
37.5°	188.2	183.3	177.3	178.6	185.9	186.6	187.9	187.7	187.1	188.2	183.3
40°	177.3	173.2	168.9	170.4	174.5	175.4	176.6	176.7	176.7	177.3	173.2
42.5°	166.3	163.3	160.3	160.8	163.7	165.0	165.7	166.1	165.9	166.3	163.3
45°	156.2	154.4	152.8	152.4	154.0	155.5	156.6	158.1	157.8	156.2	154.4
47.5°	149.3	146.9	144.9	144.5	145.6	147.5	149.5	150.8	150.8	149.3	146.9
50°	142.0	139.5	137.9	137.2	138.3	140.1	141.8	143.6	143.5	142.0	139.5
52.5°	134.5	131.9	130.6	130.2	131.3	132.9	134.9	136.7	136.1	134.5	131.9
55°	127.3	125.0	123.6	123.0	124.5	126.2	128.1	129.7	129.1	127.3	125.0
57.5°	120.5	118.1	116.6	116.4	118.0	119.6	121.2	122.6	122.0	120.5	118.1
60°	113.7	111.3	110.4	110.2	111.3	113.1	114.6	116.0	115.3	113.7	111.3
62.5°	107.1	105.3	104.1	104.2	105.1	106.9	108.2	109.6	108.6	107.1	105.3
65°	100.7	99.4	98.5	98.1	99.3	100.7	101.9	102.9	102.1	100.7	99.4
67.5°	94.4	93.4	93.2	93.0	93.6	94.4	95.3	96.2	95.5	94.4	93.4
70°	88.0	88.0	88.3	88.1	87.8	88.0	88.6	89.4	88.8	88.0	88.0
72.5°	82.1	82.2	83.3	83.2	82.1	81.6	81.7	82.6	82.2	82.1	82.2
75°	75.7	77.0	78.2	78.0	76.8	75.2	74.9	75.6	75.4	75.7	77.0
77.5°	69.8	71.6	72.9	72.9	71.6	69.2	68.3	68.7	68.9	69.8	71.6
80°	64.1	66.1	67.6	67.4	66.3	63.9	61.9	61.9	62.4	64.1	66.1
82.5°	58.6	60.8	62.1	62.0	61.0	58.8	55.9	55.3	56.2	58.6	60.8
85°	53.1	55.3	56.4	56.5	55.6	53.5	50.3	49.0	50.3	53.1	55.3
87.5°	47.4	49.3	50.6	50.7	49.9	48.0	45.0	43.2	44.8	47.4	49.3
90°	42.1	43.9	45.1	45.2	44.4	42.6	40.3	38.7	39.8	42.1	43.9
92.5°	38.7	40.5	40.8	41.5	41.9	39.7	37.2	36.4	36.7	38.7	40.5
95°	53.6	54.4	44.9	48.8	59.4	56.0	51.8	47.2	47.7	53.6	54.4
97.5°	103.5	113.4	95.6	96.4	108.9	97.1	99.6	106.0	98.3	103.5	113.4
100°	173.8	191.1	186.8	186.4	178.9	156.5	156.4	172.2	163.9	173.8	191.1
102.5°	227.6	247.1	265.7	267.6	235.9	214.2	209.6	227.4	218.5	227.6	247.1
105°	280.8	295.8	302.5	299.0	284.1	270.4	267.0	281.0	272.5	280.8	295.8
107.5°	318.6	319.3	317.7	315.6	308.0	306.7	314.3	325.3	316.4	318.6	319.3
110°	336.2	335.7	331.8	326.1	323.9	326.2	336.5	348.0	338.4	336.2	335.7





TEST NUMBER: 253p382

CATALOG NUMBER: 440-INC/4/75-120V-30

**CANDELA DISTRIBUTION (continued):**

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
112.5°	368.6	351.8	343.1	333.6	334.3	362.4	362.0	368.2	362.1	368.6	351.8
115°	393.8	371.1	357.7	343.1	345.8	384.2	385.8	392.1	386.8	393.8	371.1
117.5°	405.6	395.4	374.0	357.2	368.6	395.6	399.9	406.4	402.7	405.6	395.4
120°	416.8	417.3	391.4	375.6	395.4	409.4	413.5	419.5	416.3	416.8	417.3
122.5°	430.4	434.5	413.7	400.2	421.7	425.5	428.5	433.5	430.5	430.4	434.5
125°	447.2	447.5	438.3	428.6	442.8	443.1	445.1	450.0	447.3	447.2	447.5
127.5°	462.8	461.2	463.1	461.2	460.2	460.1	463.0	467.8	465.5	462.8	461.2
130°	476.3	477.3	486.4	489.8	479.2	476.0	479.2	484.1	480.6	476.3	477.3
132.5°	493.7	497.4	506.9	511.6	499.4	494.2	495.6	499.6	495.4	493.7	497.4
135°	513.3	518.3	528.1	527.4	518.7	513.9	514.3	516.2	513.2	513.3	518.3
137.5°	534.2	540.5	546.9	539.1	535.6	533.0	533.1	535.2	534.1	534.2	540.5
140°	555.9	561.0	558.9	549.6	549.1	549.4	552.0	555.9	554.1	555.9	561.0
142.5°	573.5	573.8	568.2	561.0	561.2	563.6	568.6	573.8	572.2	573.5	573.8
145°	584.3	583.3	578.1	572.0	571.1	574.6	581.2	588.7	586.1	584.3	583.3
147.5°	593.9	593.4	588.8	583.8	582.0	584.7	589.7	597.4	594.9	593.9	593.4
150°	602.5	603.1	599.0	594.9	593.4	594.6	599.6	605.9	603.7	602.5	603.1
152.5°	610.5	612.0	609.3	604.9	603.9	604.4	608.5	615.3	612.8	610.5	612.0
155°	618.5	620.7	619.0	615.5	613.8	613.6	617.4	623.8	620.7	618.5	620.7
157.5°	628.3	629.0	628.1	625.4	622.7	623.0	626.3	632.0	629.4	628.3	629.0
160°	635.4	636.8	635.4	632.8	631.3	631.0	635.1	640.4	637.7	635.4	636.8
162.5°	642.6	643.0	642.4	640.0	638.0	638.6	642.3	647.6	645.3	642.6	643.0
165°	648.3	648.9	648.2	646.5	645.0	646.1	649.4	653.8	651.1	648.3	648.9
167.5°	654.2	653.8	653.3	652.3	650.7	651.8	654.8	659.7	656.3	654.2	653.8
170°	659.1	658.8	658.3	657.6	656.2	657.6	660.5	664.6	661.4	659.1	658.8
172.5°	662.4	663.0	663.1	662.8	661.4	662.0	664.0	668.2	665.3	662.4	663.0
175°	666.5	667.6	667.2	667.2	665.6	666.2	668.4	672.8	668.7	666.5	667.6
177.5°	669.5	670.9	670.0	670.3	669.0	669.2	671.1	675.4	671.4	669.5	670.9
180°	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8



TEST NUMBER: 253p382

CATALOG NUMBER: 440-INC/4/75-120V-30

**CANDELA DISTRIBUTION (continued):**

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0
2.5°	220.2	220.2	220.5	220.0	220.2	220.4	221.0	221.6	220.0	220.2	220.2
5°	220.3	220.4	220.7	220.3	220.5	220.7	221.2	221.3	220.3	220.3	220.4
7.5°	220.3	220.2	220.4	220.0	220.1	220.1	220.6	220.8	220.1	220.3	220.2
10°	219.2	219.3	219.5	219.2	219.4	219.6	220.0	220.2	219.1	219.2	219.3
12.5°	218.0	217.8	218.0	217.9	218.1	218.4	218.8	218.6	217.8	218.0	217.8
15°	215.7	215.7	216.1	215.8	216.0	216.7	216.9	216.7	215.7	215.7	215.7
17.5°	213.2	212.9	213.1	213.4	213.5	214.0	214.0	214.2	213.1	213.2	212.9
20°	209.8	210.0	210.2	210.2	212.0	213.4	212.6	211.0	209.8	209.8	210.0
22.5°	206.3	206.0	206.5	209.2	210.2	211.3	210.8	208.4	206.6	206.3	206.0
25°	203.1	202.5	203.4	209.0	212.4	212.7	211.5	209.1	203.3	203.1	202.5
27.5°	198.3	199.5	204.6	204.5	210.4	213.3	211.8	205.2	203.0	198.3	199.5
30°	197.4	197.7	199.0	203.6	206.6	212.4	210.1	204.5	202.0	197.4	197.7
32.5°	192.3	191.8	196.6	202.8	204.3	206.8	204.7	203.7	196.8	192.3	191.8
35°	185.3	187.0	193.9	197.0	198.6	198.9	198.2	198.2	190.6	185.3	187.0
37.5°	177.3	178.6	185.9	186.6	187.9	187.7	187.1	188.2	183.3	177.3	178.6
40°	168.9	170.4	174.5	175.4	176.6	176.7	176.7	177.3	173.2	168.9	170.4
42.5°	160.3	160.8	163.7	165.0	165.7	166.1	165.9	166.3	163.3	160.3	160.8
45°	152.8	152.4	154.0	155.5	156.6	158.1	157.8	156.2	154.4	152.8	152.4
47.5°	144.9	144.5	145.6	147.5	149.5	150.8	150.8	149.3	146.9	144.9	144.5
50°	137.9	137.2	138.3	140.1	141.8	143.6	143.5	142.0	139.5	137.9	137.2
52.5°	130.6	130.2	131.3	132.9	134.9	136.7	136.1	134.5	131.9	130.6	130.2
55°	123.6	123.0	124.5	126.2	128.1	129.7	129.1	127.3	125.0	123.6	123.0
57.5°	116.6	116.4	118.0	119.6	121.2	122.6	122.0	120.5	118.1	116.6	116.4
60°	110.4	110.2	111.3	113.1	114.6	116.0	115.3	113.7	111.3	110.4	110.2
62.5°	104.1	104.2	105.1	106.9	108.2	109.6	108.6	107.1	105.3	104.1	104.2
65°	98.5	98.1	99.3	100.7	101.9	102.9	102.1	100.7	99.4	98.5	98.1
67.5°	93.2	93.0	93.6	94.4	95.3	96.2	95.5	94.4	93.4	93.2	93.0
70°	88.3	88.1	87.8	88.0	88.6	89.4	88.8	88.0	88.0	88.3	88.1
72.5°	83.3	83.2	82.1	81.6	81.7	82.6	82.2	82.1	82.2	83.3	83.2
75°	78.2	78.0	76.8	75.2	74.9	75.6	75.4	75.7	77.0	78.2	78.0
77.5°	72.9	72.9	71.6	69.2	68.3	68.7	68.9	69.8	71.6	72.9	72.9
80°	67.6	67.4	66.3	63.9	61.9	61.9	62.4	64.1	66.1	67.6	67.4
82.5°	62.1	62.0	61.0	58.8	55.9	55.3	56.2	58.6	60.8	62.1	62.0
85°	56.4	56.5	55.6	53.5	50.3	49.0	50.3	53.1	55.3	56.4	56.5
87.5°	50.6	50.7	49.9	48.0	45.0	43.2	44.8	47.4	49.3	50.6	50.7
90°	45.1	45.2	44.4	42.6	40.3	38.7	39.8	42.1	43.9	45.1	45.2
92.5°	40.8	41.5	41.9	39.7	37.2	36.4	36.7	38.7	40.5	40.8	41.5
95°	44.9	48.8	59.4	56.0	51.8	47.2	47.7	53.6	54.4	44.9	48.8
97.5°	95.6	96.4	108.9	97.1	99.6	106.0	98.3	103.5	113.4	95.6	96.4
100°	186.8	186.4	178.9	156.5	156.4	172.2	163.9	173.8	191.1	186.8	186.4
102.5°	265.7	267.6	235.9	214.2	209.6	227.4	218.5	227.6	247.1	265.7	267.6
105°	302.5	299.0	284.1	270.4	267.0	281.0	272.5	280.8	295.8	302.5	299.0
107.5°	317.7	315.6	308.0	306.7	314.3	325.3	316.4	318.6	319.3	317.7	315.6
110°	331.8	326.1	323.9	326.2	336.5	348.0	338.4	336.2	335.7	331.8	326.1



TEST NUMBER: 253p382

CATALOG NUMBER: 440-INC/4/75-120V-30

**CANDELA DISTRIBUTION (continued):**

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
112.5°	343.1	333.6	334.3	362.4	362.0	368.2	362.1	368.6	351.8	343.1	333.6
115°	357.7	343.1	345.8	384.2	385.8	392.1	386.8	393.8	371.1	357.7	343.1
117.5°	374.0	357.2	368.6	395.6	399.9	406.4	402.7	405.6	395.4	374.0	357.2
120°	391.4	375.6	395.4	409.4	413.5	419.5	416.3	416.8	417.3	391.4	375.6
122.5°	413.7	400.2	421.7	425.5	428.5	433.5	430.5	430.4	434.5	413.7	400.2
125°	438.3	428.6	442.8	443.1	445.1	450.0	447.3	447.2	447.5	438.3	428.6
127.5°	463.1	461.2	460.2	460.1	463.0	467.8	465.5	462.8	461.2	463.1	461.2
130°	486.4	489.8	479.2	476.0	479.2	484.1	480.6	476.3	477.3	486.4	489.8
132.5°	506.9	511.6	499.4	494.2	495.6	499.6	495.4	493.7	497.4	506.9	511.6
135°	528.1	527.4	518.7	513.9	514.3	516.2	513.2	513.3	518.3	528.1	527.4
137.5°	546.9	539.1	535.6	533.0	533.1	535.2	534.1	534.2	540.5	546.9	539.1
140°	558.9	549.6	549.1	549.4	552.0	555.9	554.1	555.9	561.0	558.9	549.6
142.5°	568.2	561.0	561.2	563.6	568.6	573.8	572.2	573.5	573.8	568.2	561.0
145°	578.1	572.0	571.1	574.6	581.2	588.7	586.1	584.3	583.3	578.1	572.0
147.5°	588.8	583.8	582.0	584.7	589.7	597.4	594.9	593.9	593.4	588.8	583.8
150°	599.0	594.9	593.4	594.6	599.6	605.9	603.7	602.5	603.1	599.0	594.9
152.5°	609.3	604.9	603.9	604.4	608.5	615.3	612.8	610.5	612.0	609.3	604.9
155°	619.0	615.5	613.8	613.6	617.4	623.8	620.7	618.5	620.7	619.0	615.5
157.5°	628.1	625.4	622.7	623.0	626.3	632.0	629.4	628.3	629.0	628.1	625.4
160°	635.4	632.8	631.3	631.0	635.1	640.4	637.7	635.4	636.8	635.4	632.8
162.5°	642.4	640.0	638.0	638.6	642.3	647.6	645.3	642.6	643.0	642.4	640.0
165°	648.2	646.5	645.0	646.1	649.4	653.8	651.1	648.3	648.9	648.2	646.5
167.5°	653.3	652.3	650.7	651.8	654.8	659.7	656.3	654.2	653.8	653.3	652.3
170°	658.3	657.6	656.2	657.6	660.5	664.6	661.4	659.1	658.8	658.3	657.6
172.5°	663.1	662.8	661.4	662.0	664.0	668.2	665.3	662.4	663.0	663.1	662.8
175°	667.2	667.2	665.6	666.2	668.4	672.8	668.7	666.5	667.6	667.2	667.2
177.5°	670.0	670.3	669.0	669.2	671.1	675.4	671.4	669.5	670.9	670.0	670.3
180°	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8



TEST NUMBER: 253p382

CATALOG NUMBER: 440-INC/4/75-120V-30

**CANDELA DISTRIBUTION (continued):**

	330°	340°	350°	360°
0°	220.0	220.0	220.0	220.0
2.5°	220.5	220.0	220.2	220.4
5°	220.7	220.3	220.5	220.7
7.5°	220.4	220.0	220.1	220.1
10°	219.5	219.2	219.4	219.6
12.5°	218.0	217.9	218.1	218.4
15°	216.1	215.8	216.0	216.7
17.5°	213.1	213.4	213.5	214.0
20°	210.2	210.2	212.0	213.4
22.5°	206.5	209.2	210.2	211.3
25°	203.4	209.0	212.4	212.7
27.5°	204.6	204.5	210.4	213.3
30°	199.0	203.6	206.6	212.4
32.5°	196.6	202.8	204.3	206.8
35°	193.9	197.0	198.6	198.9
37.5°	185.9	186.6	187.9	187.7
40°	174.5	175.4	176.6	176.7
42.5°	163.7	165.0	165.7	166.1
45°	154.0	155.5	156.6	158.1
47.5°	145.6	147.5	149.5	150.8
50°	138.3	140.1	141.8	143.6
52.5°	131.3	132.9	134.9	136.7
55°	124.5	126.2	128.1	129.7
57.5°	118.0	119.6	121.2	122.6
60°	111.3	113.1	114.6	116.0
62.5°	105.1	106.9	108.2	109.6
65°	99.3	100.7	101.9	102.9
67.5°	93.6	94.4	95.3	96.2
70°	87.8	88.0	88.6	89.4
72.5°	82.1	81.6	81.7	82.6
75°	76.8	75.2	74.9	75.6
77.5°	71.6	69.2	68.3	68.7
80°	66.3	63.9	61.9	61.9
82.5°	61.0	58.8	55.9	55.3
85°	55.6	53.5	50.3	49.0
87.5°	49.9	48.0	45.0	43.2
90°	44.4	42.6	40.3	38.7
92.5°	41.9	39.7	37.2	36.4
95°	59.4	56.0	51.8	47.2
97.5°	108.9	97.1	99.6	106.0
100°	178.9	156.5	156.4	172.2
102.5°	235.9	214.2	209.6	227.4
105°	284.1	270.4	267.0	281.0
107.5°	308.0	306.7	314.3	325.3
110°	323.9	326.2	336.5	348.0



TEST NUMBER: 253p382

CATALOG NUMBER: 440-INC/4/75-120V-30

**CANDELA DISTRIBUTION (continued):**

	330°	340°	350°	360°
112.5°	334.3	362.4	362.0	368.2
115°	345.8	384.2	385.8	392.1
117.5°	368.6	395.6	399.9	406.4
120°	395.4	409.4	413.5	419.5
122.5°	421.7	425.5	428.5	433.5
125°	442.8	443.1	445.1	450.0
127.5°	460.2	460.1	463.0	467.8
130°	479.2	476.0	479.2	484.1
132.5°	499.4	494.2	495.6	499.6
135°	518.7	513.9	514.3	516.2
137.5°	535.6	533.0	533.1	535.2
140°	549.1	549.4	552.0	555.9
142.5°	561.2	563.6	568.6	573.8
145°	571.1	574.6	581.2	588.7
147.5°	582.0	584.7	589.7	597.4
150°	593.4	594.6	599.6	605.9
152.5°	603.9	604.4	608.5	615.3
155°	613.8	613.6	617.4	623.8
157.5°	622.7	623.0	626.3	632.0
160°	631.3	631.0	635.1	640.4
162.5°	638.0	638.6	642.3	647.6
165°	645.0	646.1	649.4	653.8
167.5°	650.7	651.8	654.8	659.7
170°	656.2	657.6	660.5	664.6
172.5°	661.4	662.0	664.0	668.2
175°	665.6	666.2	668.4	672.8
177.5°	669.0	669.2	671.1	675.4
180°	672.8	672.8	672.8	672.8

(END OF REPORT)