

Scaled data based on original data using
LM-31-95 IESNA Approved Method for Photometric Testing of Roadway Luminaires
Using Incandescent Filament and High Intensity Discharge Lamps

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: LUMIERE

Report Number: P10073

Luminaire Tested: **1237E-SQ-x-20T3**

Issue Date: 3/3/2020

Test Information

Test Method: LM-31-95
Report Number: P10073
Test Lab: PEACHTREE CITY
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMIERE
Catalog Number: 1237E-SQ-x-20T3
Description: LUMIERE 7 INCH INCANDESCENT STEP LIGHT
WITH EYELID FACEPLATE, SAND BLASTED LENS
WITH REFLECTOR
Light Source: BI PIN T3 CLEAR QUARTZ HALOGEN INCANDESCENT LAMP
Q20T3/CL/CD 20WATTS
Ballast/Driver: -

Summary

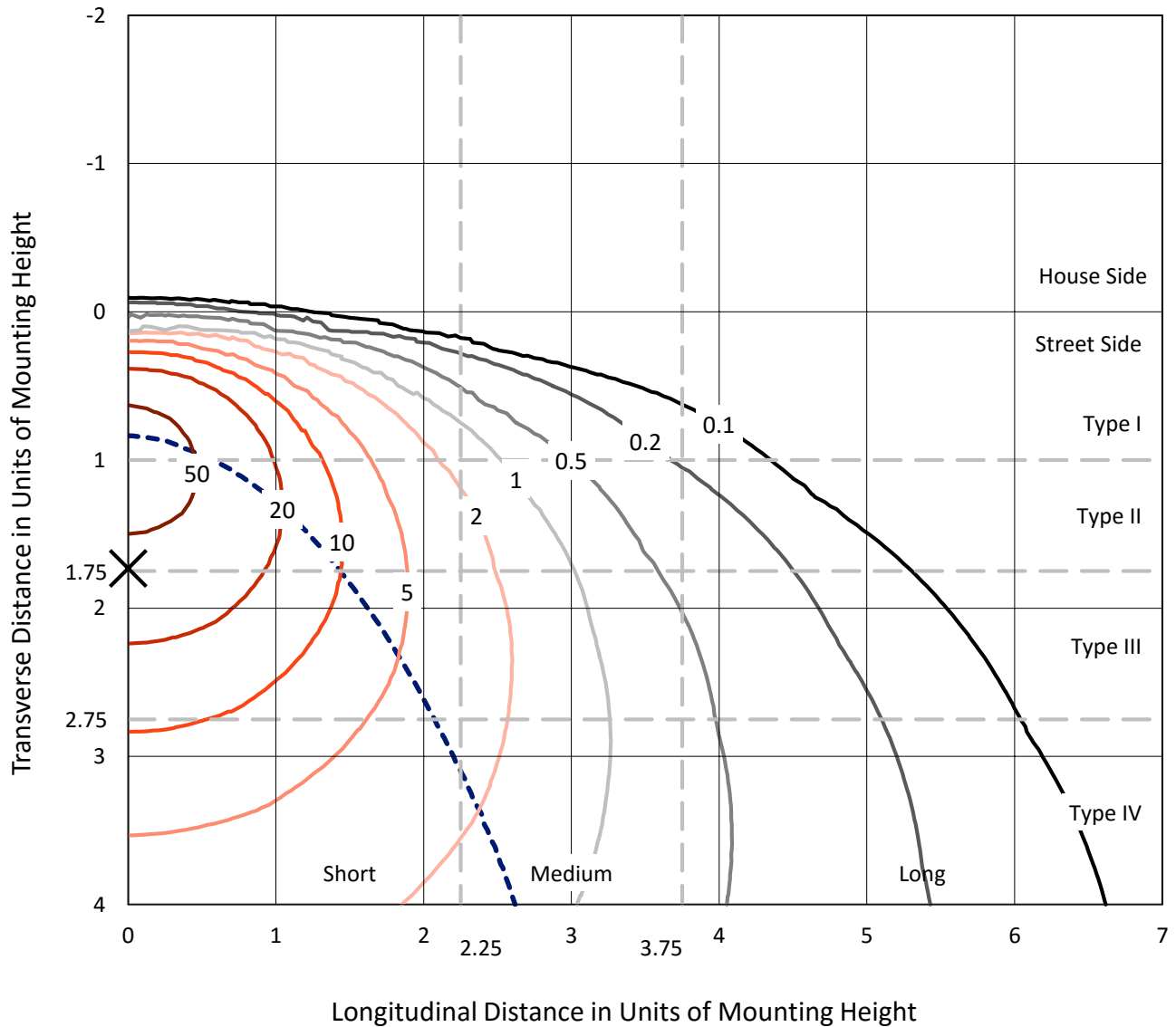
Lumens per Lamp: 350 (1 lamp)
Luminaire Lumens: 97.2 lumens
Efficiency: 27.8%
Efficacy: 4.9 lumens/watt
Luminous Opening: Circular (Dia: 0.46' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B0 - U2 - G1

Input Watts (W): 20
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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Iso-Footcandle Lines of Horizontal Illumination

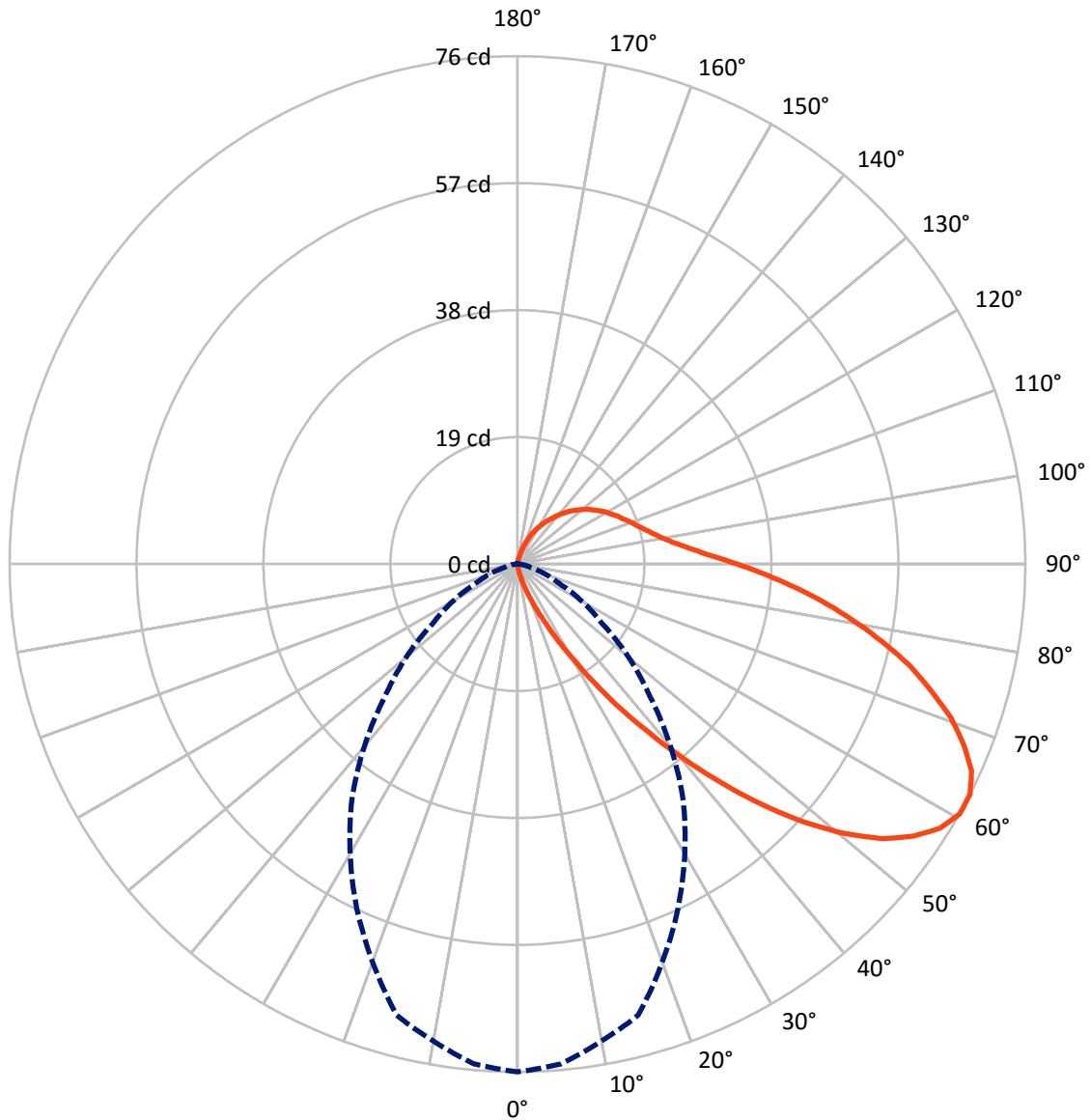
✕ Max cd
 - - - 1/2 Max cd



Based on 0.5 foot mounting height. Maximum calculated value = 72.5 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 0-Deg Lateral - - - Horizontal Cone Through 60-Deg Vertical

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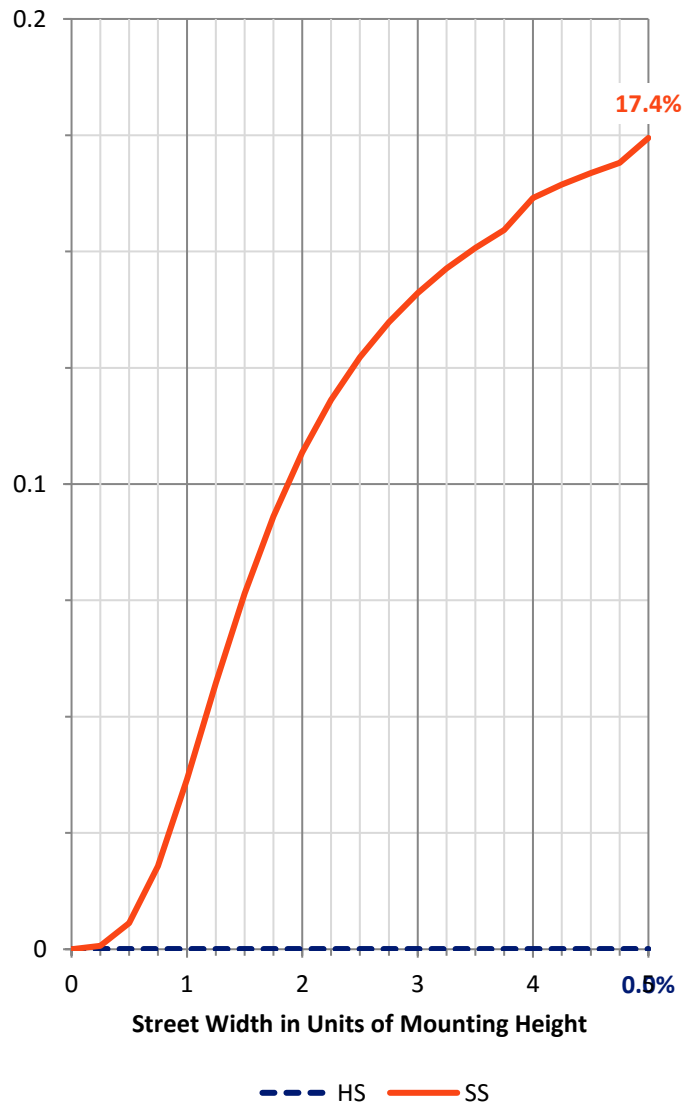
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	0.0	0.1	0.1
	% Lamp	0.0	0.0	0.0
Street Side	Lumens	70.0	27.1	97.1
	% Lamp	20.0	7.7	27.7
Total	Lumens	70.0	27.2	97.2
	% Lamp	20.0	7.8	27.8

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	0.0	0.0	0.0
10°-20°	0.2	0.2	0.1
20°-30°	1.1	1.1	0.3
30°-40°	3.6	3.7	1.0
40°-50°	8.3	8.5	2.4
50°-60°	13.6	14.0	3.9
60°-70°	16.5	16.9	4.7
70°-80°	15.2	15.6	4.3
80°-90°	11.6	11.9	3.3
90°-100°	8.1	8.3	2.3
100°-110°	6.2	6.4	1.8
110°-120°	4.9	5.0	1.4
120°-130°	3.6	3.7	1.0
130°-140°	2.4	2.5	0.7
140°-150°	1.3	1.4	0.4
150°-160°	0.5	0.6	0.2
160°-170°	0.1	0.1	0.0
170°-180°	0.0	0.0	0.0
0°-90°	70.0	72.1	20.0
0°-180°	97.2	100.0	27.8

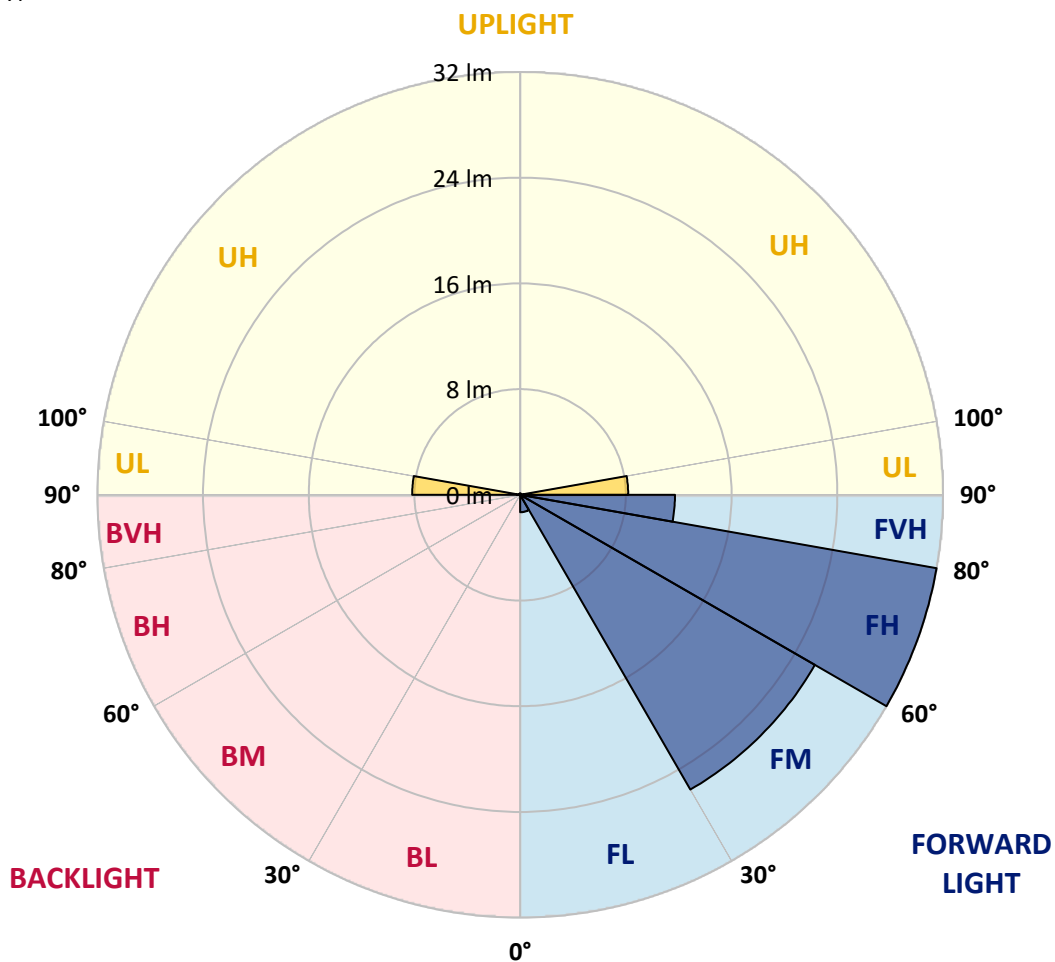


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Lamp	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1.3	0.4			
FM (30°-60°)	25.5	7.3			
FH (60°-80°)	31.7	9.0			G0/660
FVH (80°-90°)	11.6	3.3			G1/100
BL (0°-30°)	0.0	0.0	B0/110		
BM (30°-60°)	0.0	0.0	B0/220		
BH (60°-80°)	0.0	0.0	B0/110		G0/110
BVH (80°-90°)	0.0	0.0			G0/10
UL (90°-100°)	8.1	2.3		U1/10	
UH (100°-180°)	0.1	0.0		U1/10	
Trapped Light	252.8	72.2			

BUG Rating: B0-U2-G1
 Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
5°	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1
7.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
10°	0.8	0.8	0.7	0.6	0.4	0.3	0.2	0.2	0.2	0.1	0.1
12.5°	1.6	1.6	1.5	1.2	0.9	0.6	0.3	0.2	0.2	0.1	0.1
15°	2.6	2.6	2.4	2.1	1.6	1.1	0.5	0.2	0.2	0.1	0.1
17.5°	3.8	3.8	3.5	3.0	2.4	1.7	0.9	0.3	0.2	0.1	0.1
20°	5.3	5.3	4.9	4.2	3.3	2.4	1.4	0.5	0.2	0.1	0.1
22.5°	7.4	7.2	6.7	5.6	4.5	3.2	1.9	0.8	0.2	0.1	0.1
25°	9.8	9.8	9.0	7.4	5.8	4.1	2.4	1.1	0.3	0.1	0.1
27.5°	13.0	12.8	11.8	9.5	7.4	5.1	3.0	1.4	0.4	0.1	0.1
30°	16.6	16.5	15.1	12.1	9.4	6.4	3.7	1.7	0.5	0.1	0.1
32.5°	21.2	20.9	18.9	15.2	11.7	7.8	4.5	2.1	0.6	0.1	0.1
35°	26.5	26.0	23.6	18.6	14.1	9.5	5.4	2.4	0.7	0.1	0.1
37.5°	32.0	31.7	28.4	22.6	17.0	11.2	6.3	2.8	0.8	0.1	0.1
40°	38.2	37.8	33.9	26.8	20.1	13.2	7.4	3.3	1.0	0.1	0.1
42.5°	44.7	44.0	39.7	31.2	23.2	15.2	8.5	3.8	1.1	0.1	0.1
45°	51.3	50.5	45.5	35.5	26.6	17.3	9.6	4.2	1.2	0.1	0.1
47.5°	57.6	56.6	51.2	40.0	30.0	19.5	10.8	4.7	1.4	0.2	0.1
50°	63.3	62.3	56.5	45.1	33.4	21.6	11.9	5.2	1.5	0.2	0.1
52.5°	68.2	67.1	61.4	48.9	36.3	23.6	12.9	5.7	1.7	0.2	0.1
55°	71.8	70.9	65.1	52.2	39.1	25.3	13.8	6.1	1.8	0.2	0.1
57.5°	74.5	73.8	68.0	54.9	41.4	26.8	14.7	6.6	2.0	0.3	0.1
60°	75.9	75.0	69.8	56.8	43.2	28.0	15.4	6.9	2.1	0.3	0.1
62.5°	75.9	75.2	70.1	57.9	44.4	28.9	15.9	7.2	2.3	0.3	0.1
65°	74.6	74.0	69.5	57.8	44.8	29.3	16.2	7.5	2.4	0.3	0.1
67.5°	71.9	71.5	67.6	57.1	44.4	29.3	16.3	7.7	2.5	0.3	0.1
70°	68.7	68.3	64.9	55.1	43.4	28.9	16.3	7.8	2.6	0.3	0.1
72.5°	64.6	64.4	61.3	52.5	41.7	28.1	16.1	7.9	2.8	0.3	0.1
75°	60.5	59.9	57.3	49.1	39.5	27.1	15.8	7.9	2.9	0.4	0.1
77.5°	55.7	55.3	52.9	45.6	37.2	25.9	15.4	7.9	2.9	0.4	0.1
80°	50.8	50.4	48.5	42.2	34.6	24.5	14.9	7.8	3.0	0.4	0.1
82.5°	45.9	45.6	43.9	38.4	32.0	23.1	14.4	7.8	3.0	0.4	0.1
85°	41.0	40.7	39.6	35.0	29.4	21.6	13.9	7.7	3.0	0.4	0.1
87.5°	36.3	36.3	35.2	31.4	26.7	20.1	13.2	7.5	3.0	0.4	0.1
90°	31.9	31.8	31.2	28.0	24.2	18.5	12.5	7.2	3.0	0.4	0.1
92.5°	28.2	28.2	27.7	25.1	22.1	17.2	11.9	7.0	2.9	0.4	0.1
95°	25.5	25.4	25.1	23.0	20.4	16.1	11.4	6.8	2.9	0.3	0.1
97.5°	23.4	23.3	23.1	21.3	19.0	15.3	10.9	6.6	2.8	0.3	0.1
100°	21.8	21.7	21.5	19.9	18.0	14.6	10.4	6.4	2.7	0.3	0.1
102.5°	20.6	20.5	20.3	18.9	17.1	13.9	10.1	6.2	2.6	0.3	0.1
105°	19.6	19.5	19.3	17.9	16.3	13.4	9.7	6.0	2.5	0.3	0.1
107.5°	18.7	18.7	18.4	17.1	15.6	12.8	9.3	5.7	2.5	0.3	0.1
110°	18.0	17.9	17.7	16.4	14.9	12.3	9.0	5.5	2.4	0.3	0.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	17.2	17.2	16.9	15.6	14.2	11.8	8.6	5.3	2.3	0.3	0.1
115°	16.6	16.6	16.2	15.0	13.6	11.2	8.2	5.0	2.1	0.3	0.1
117.5°	15.9	15.9	15.6	14.3	13.0	10.7	7.9	4.8	2.0	0.3	0.1
120°	15.3	15.3	14.9	13.6	12.3	10.1	7.5	4.5	1.9	0.3	0.1
122.5°	14.6	14.5	14.2	12.9	11.7	9.6	7.0	4.2	1.8	0.2	0.1
125°	13.9	13.9	13.5	12.3	11.1	9.0	6.6	4.0	1.6	0.2	0.1
127.5°	13.3	13.2	12.8	11.6	10.4	8.4	6.2	3.7	1.5	0.2	0.1
130°	12.5	12.5	12.0	10.9	9.7	7.9	5.7	3.4	1.3	0.2	0.1
132.5°	11.8	11.7	11.3	10.1	9.0	7.5	5.3	3.1	1.1	0.2	0.1
135°	11.0	10.9	10.6	9.4	8.4	6.9	4.9	2.8	0.9	0.2	0.1
137.5°	10.2	10.1	9.7	8.7	7.8	6.3	4.4	2.5	0.8	0.2	0.1
140°	9.4	9.3	9.0	8.0	7.2	5.7	4.0	2.2	0.6	0.2	0.1
142.5°	8.5	8.5	8.2	7.4	6.5	5.2	3.5	1.9	0.5	0.1	0.1
145°	7.8	7.7	7.5	6.7	5.8	4.6	3.1	1.5	0.4	0.1	0.1
147.5°	7.0	7.0	6.7	6.0	5.2	4.0	2.6	1.2	0.4	0.1	0.1
150°	6.2	6.2	5.9	5.2	4.5	3.4	2.2	0.9	0.3	0.1	0.1
152.5°	5.4	5.4	5.1	4.5	3.8	2.9	1.7	0.7	0.3	0.1	0.1
155°	4.6	4.5	4.3	3.7	3.1	2.2	1.3	0.6	0.2	0.1	0.1
157.5°	3.7	3.7	3.5	3.0	2.4	1.7	0.9	0.4	0.2	0.1	0.1
160°	2.8	2.8	2.7	2.2	1.7	1.1	0.7	0.4	0.2	0.1	0.1
162.5°	2.0	1.9	1.8	1.5	1.1	0.8	0.5	0.3	0.1	0.1	0.1
165°	1.2	1.1	1.1	0.9	0.7	0.5	0.4	0.2	0.1	0.1	0.1
167.5°	0.7	0.6	0.6	0.5	0.4	0.3	0.2	0.2	0.1	0.1	0.1
170°	0.4	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1
172.5°	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
175°	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
177.5°	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
180°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.5°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.5°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.5°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.5°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.5°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.1	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°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0



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CATALOG NUMBER: 1237E-SQ-x-20T3

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

(END OF REPORT)