

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: P10071

Luminaire Tested: **1237-RD-x-20T3**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-31-95  
Report Number: P10071  
Test Lab: PEACHTREE CITY  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMIERE  
Catalog Number: 1237-RD-x-20T3  
Description: LUMIERE 7 INCH INCANDESCENT STEP LIGHT  
WITH OPEN FACEPLATE, SAND BLASTED LENS  
WITH REFLECTOR  
Light Source: BI PIN T3 CLEAR QUARTZ HALOGEN INCANDESCENT LAMP  
Q20T3/CL/CD 20WATTS  
Ballast/Driver: -

**Summary**

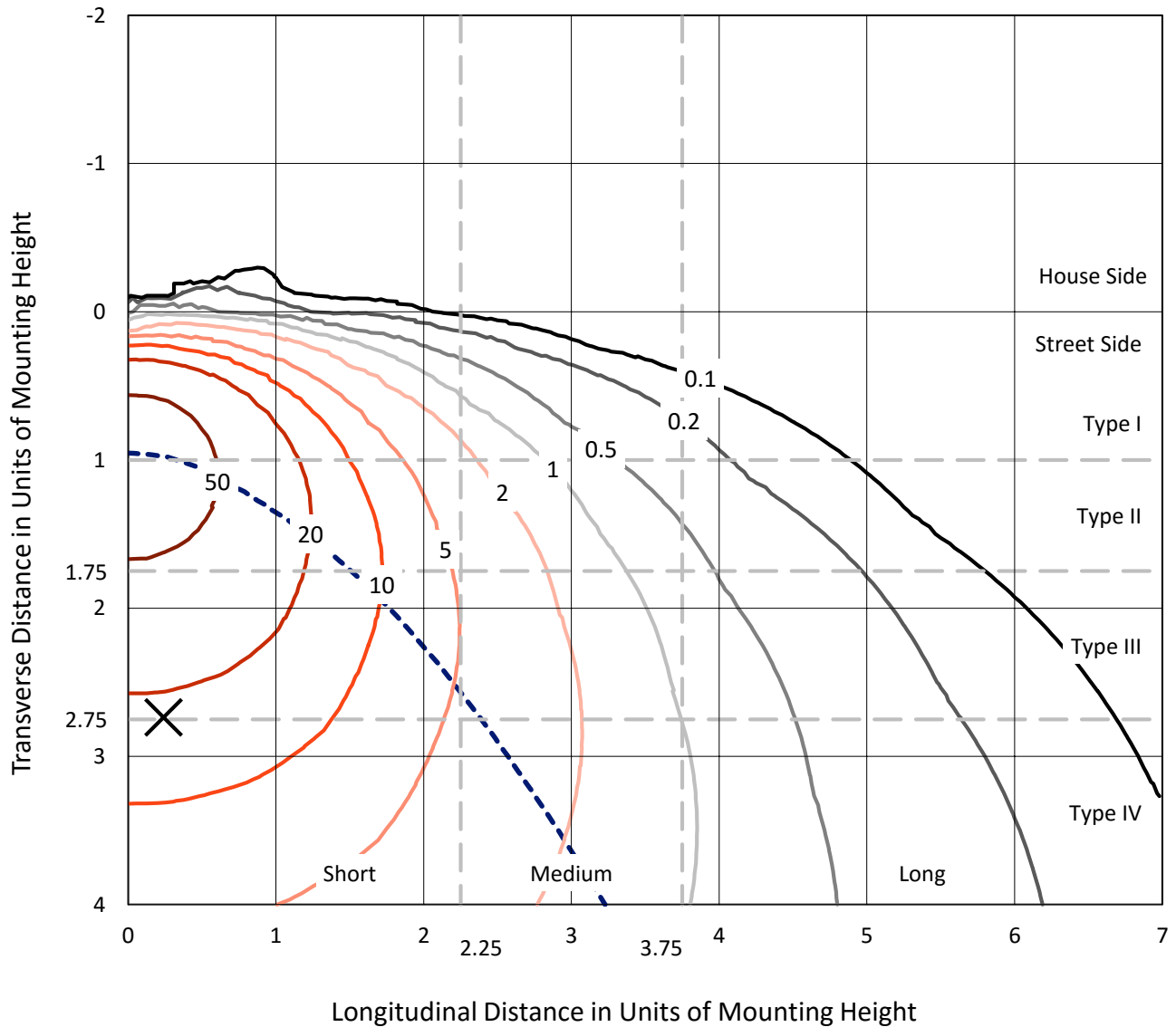
Lumens per Lamp: 350 (1 lamp)  
Luminaire Lumens: 156.1 lumens  
Efficiency: 44.6%  
Efficacy: 7.8 lumens/watt  
Luminous Opening: Circular (Dia: 0.46' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B0 - U2 - G1

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

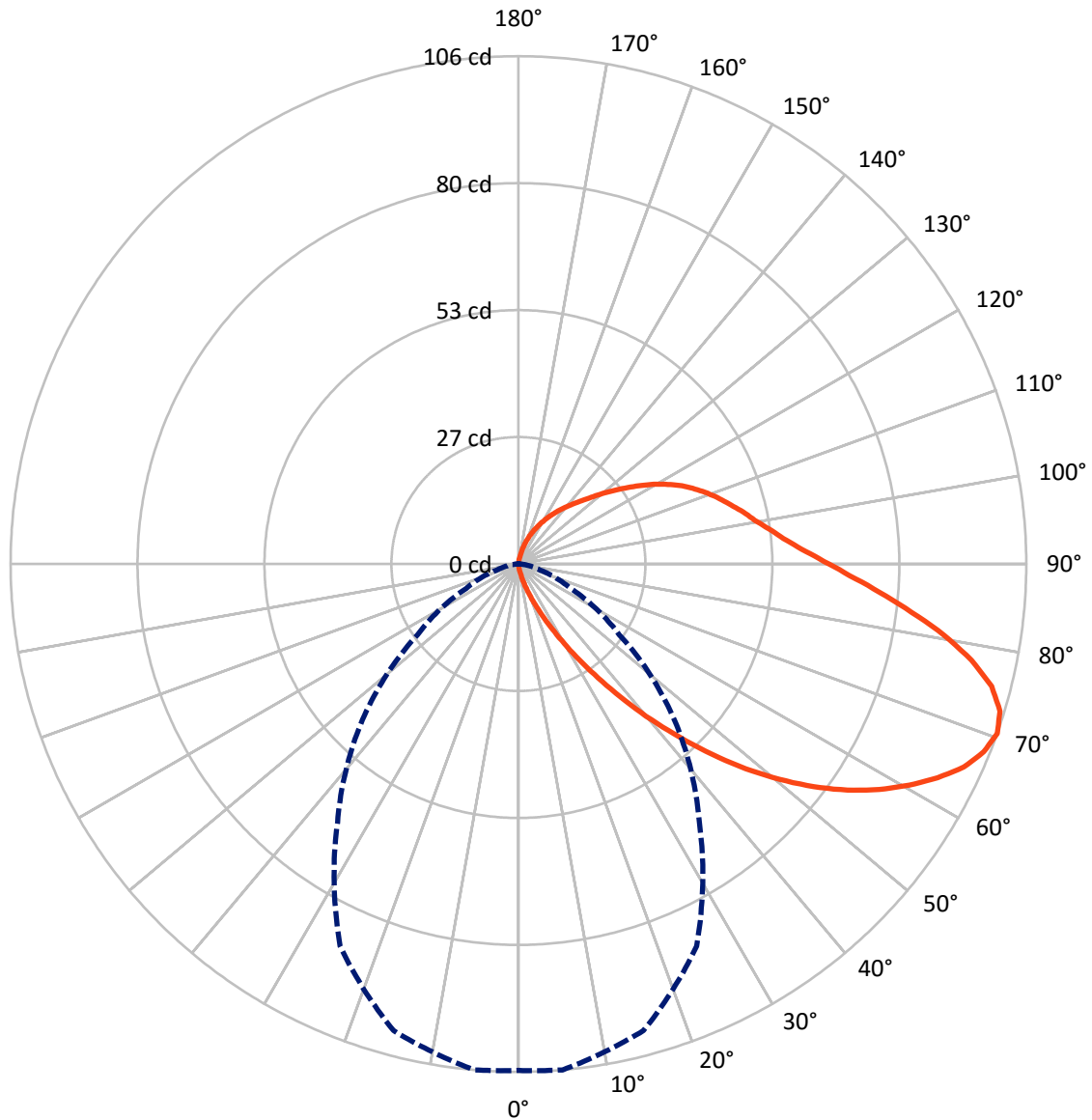
× Max cd  
 - - - 1/2 Max cd



Based on 0.5 foot mounting height. Maximum calculated value = 80.6 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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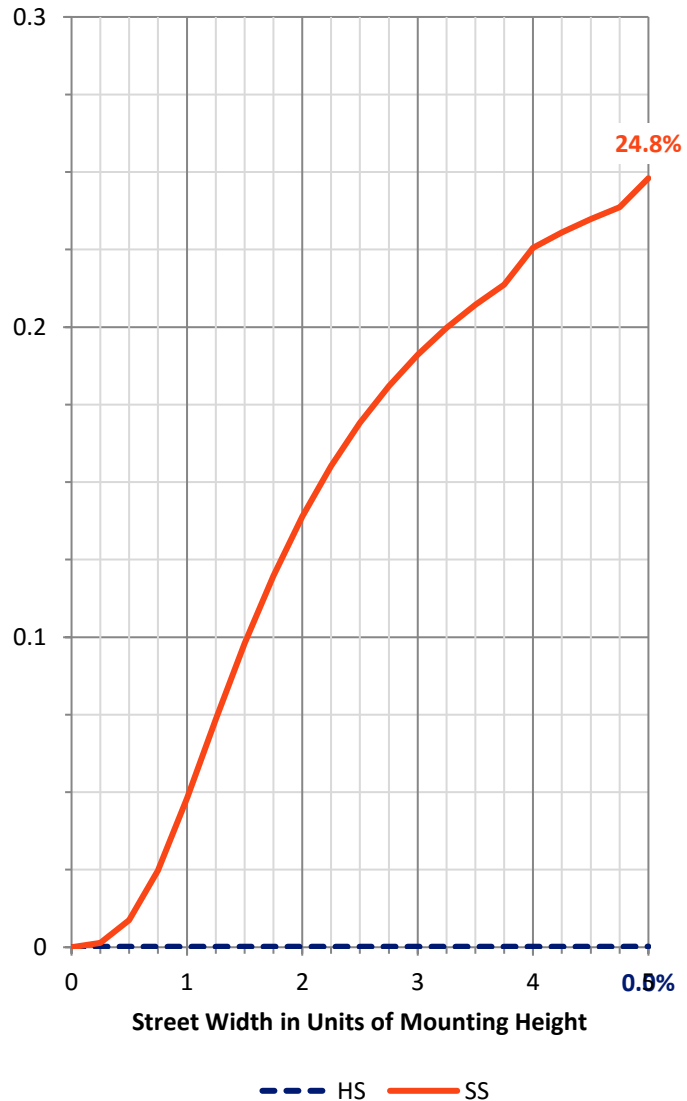
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	0.1	0.2	0.3
	% Lamp	0.0	0.1	0.1
<b>Street Side</b>	Lumens	103.2	52.7	155.9
	% Lamp	29.5	15.1	44.6
<b>Total</b>	Lumens	103.2	52.9	156.1
	% Lamp	29.5	15.1	44.6

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	0.0	0.0	0.0
10°-20°	0.3	0.2	0.1
20°-30°	1.5	1.0	0.4
30°-40°	4.5	2.9	1.3
40°-50°	10.1	6.4	2.9
50°-60°	17.1	10.9	4.9
60°-70°	23.5	15.1	6.7
70°-80°	25.4	16.3	7.3
80°-90°	20.8	13.3	5.9
90°-100°	16.2	10.4	4.6
100°-110°	12.9	8.3	3.7
110°-120°	9.8	6.2	2.8
120°-130°	6.5	4.2	1.9
130°-140°	4.0	2.6	1.1
140°-150°	2.2	1.4	0.6
150°-160°	1.0	0.6	0.3
160°-170°	0.2	0.2	0.1
170°-180°	0.0	0.0	0.0
0°-90°	103.2	66.1	29.5
0°-180°	156.1	100.0	44.6



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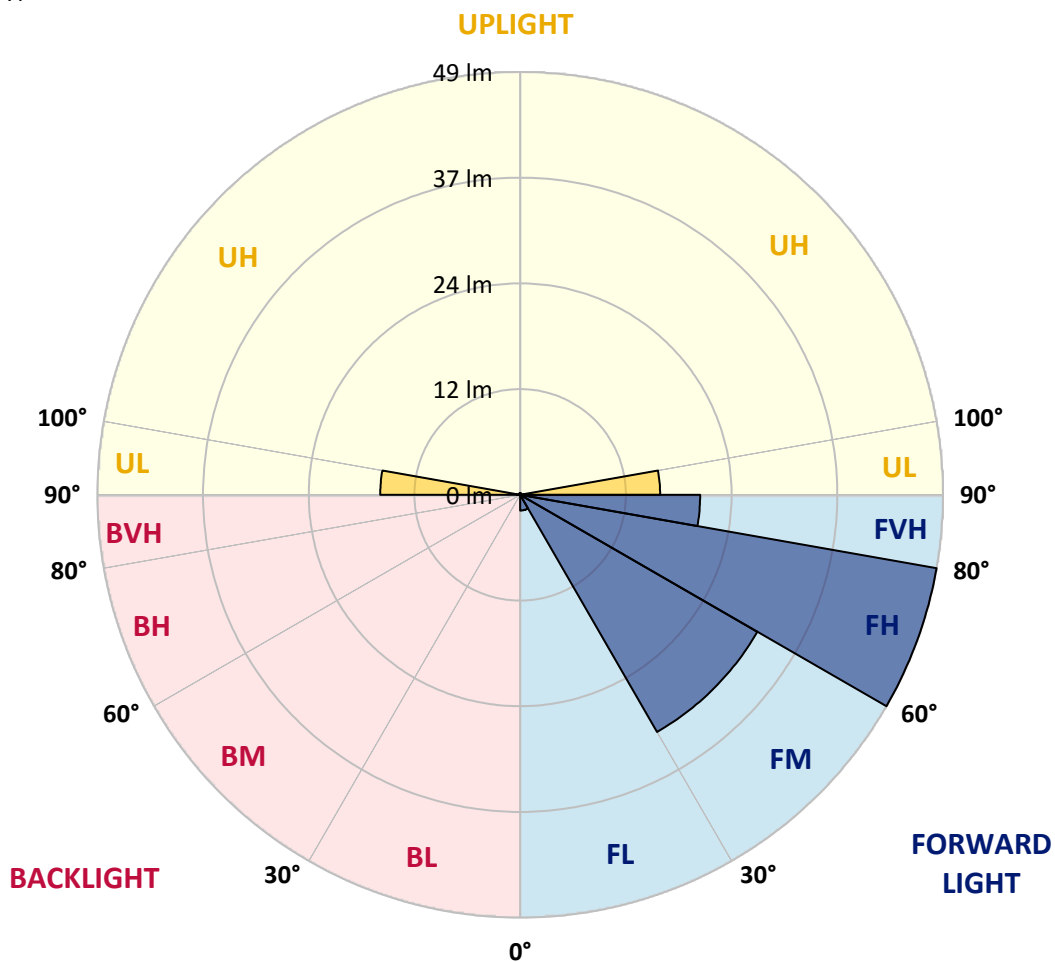
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Lamp	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1.8	0.5			
FM (30°-60°)	31.7	9.0			
FH (60°-80°)	48.9	14.0			G0/660
FVH (80°-90°)	20.8	5.9			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°)	16.2	4.6		U2/50	
UH (100°-180°)	0.2	0.1		U1/10	
Trapped Light	193.9	55.4			

**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°	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.2	0.2
5°	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2
7.5°	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2
10°	1.3	1.4	1.3	1.1	0.8	0.6	0.4	0.3	0.3	0.2	0.2
12.5°	2.4	2.4	2.3	2.0	1.5	1.1	0.7	0.4	0.3	0.2	0.2
15°	3.7	3.8	3.6	3.2	2.5	1.8	1.0	0.6	0.3	0.2	0.2
17.5°	5.3	5.3	5.1	4.5	3.5	2.6	1.6	0.8	0.4	0.2	0.2
20°	7.3	7.3	6.9	6.1	4.8	3.6	2.2	1.1	0.5	0.2	0.2
22.5°	9.6	9.7	9.1	7.9	6.2	4.6	2.9	1.5	0.7	0.2	0.2
25°	12.6	12.6	11.9	10.3	8.0	5.9	3.6	1.9	0.8	0.3	0.2
27.5°	15.8	16.0	15.0	13.0	10.0	7.3	4.5	2.3	1.0	0.3	0.2
30°	19.8	20.0	18.8	16.1	12.4	9.0	5.5	2.8	1.2	0.3	0.2
32.5°	24.8	24.8	23.2	19.8	14.9	11.0	6.6	3.3	1.3	0.4	0.2
35°	30.1	30.1	28.1	23.7	17.9	13.0	7.9	3.9	1.5	0.4	0.2
37.5°	36.3	36.2	33.5	28.2	21.2	15.3	9.2	4.6	1.7	0.5	0.2
40°	43.0	42.8	39.4	33.1	24.6	17.8	10.7	5.3	1.9	0.5	0.2
42.5°	49.7	49.5	45.7	38.3	28.5	20.5	12.1	6.0	2.2	0.6	0.2
45°	57.0	56.7	52.1	43.6	32.5	23.4	13.8	6.7	2.4	0.6	0.2
47.5°	63.8	63.9	58.7	49.1	36.7	26.4	15.4	7.5	2.6	0.7	0.2
50°	70.8	70.7	64.9	54.6	40.8	29.1	17.0	8.3	2.9	0.7	0.2
52.5°	77.2	77.3	70.8	59.7	44.9	32.0	18.6	9.0	3.1	0.7	0.2
55°	83.4	83.4	76.8	64.9	48.9	34.9	20.2	9.7	3.3	0.8	0.2
57.5°	89.0	88.9	82.1	69.9	52.7	37.6	21.7	10.3	3.5	0.8	0.3
60°	93.7	93.8	87.2	74.7	56.3	40.0	22.9	10.8	3.7	0.9	0.3
62.5°	98.3	98.3	91.8	79.2	59.7	42.2	24.0	11.3	3.9	0.9	0.3
65°	101.8	102.3	96.0	83.2	62.6	44.0	24.9	11.7	4.1	0.9	0.3
67.5°	104.6	104.8	99.2	86.4	64.8	45.4	25.4	11.9	4.2	1.0	0.3
70°	105.8	106.1	100.9	88.1	65.9	46.1	25.7	12.0	4.3	1.0	0.3
72.5°	104.8	105.2	100.6	88.0	65.8	46.0	25.6	12.1	4.4	1.0	0.3
75°	101.8	102.1	97.7	86.2	64.4	45.1	25.2	12.0	4.4	1.1	0.3
77.5°	96.5	96.8	93.2	82.1	61.8	43.5	24.5	11.9	4.4	1.1	0.3
80°	89.8	90.2	86.9	77.0	58.5	41.4	23.7	11.7	4.5	1.1	0.3
82.5°	82.4	82.8	80.2	71.4	54.8	39.1	22.9	11.6	4.5	1.1	0.3
85°	75.4	75.7	73.6	65.7	50.9	36.9	22.1	11.3	4.5	1.1	0.3
87.5°	68.8	69.2	67.4	60.8	47.9	34.9	21.3	11.1	4.4	1.1	0.3
90°	63.4	63.8	62.3	56.5	45.0	33.1	20.5	10.9	4.4	1.1	0.3
92.5°	59.0	59.2	58.0	52.8	42.3	31.3	19.8	10.6	4.3	1.1	0.3
95°	55.4	55.6	54.6	49.8	40.1	30.0	19.1	10.4	4.3	1.1	0.3
97.5°	52.5	52.8	51.7	47.3	38.2	28.7	18.4	10.1	4.2	1.1	0.3
100°	50.1	50.2	49.2	44.9	36.2	27.4	17.7	9.8	4.1	1.0	0.3
102.5°	47.9	48.2	47.1	42.8	34.5	26.2	16.9	9.5	4.0	1.0	0.3
105°	45.8	46.1	45.1	40.8	32.5	24.8	16.2	9.1	3.9	1.0	0.3
107.5°	43.8	44.2	43.0	38.7	30.7	23.6	15.4	8.8	3.8	0.9	0.3
110°	42.0	42.2	40.9	36.6	29.1	22.2	14.7	8.4	3.6	0.9	0.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	39.9	40.1	38.7	34.4	27.3	20.9	13.9	8.1	3.5	0.9	0.3
115°	37.6	37.9	36.3	32.1	25.5	19.6	13.2	7.7	3.3	0.8	0.3
117.5°	35.3	35.4	33.8	29.9	23.7	18.3	12.5	7.3	3.2	0.8	0.3
120°	32.7	32.8	31.2	27.4	21.9	17.1	11.8	6.9	3.0	0.7	0.3
122.5°	30.0	30.0	28.6	25.2	20.3	16.0	11.1	6.5	2.8	0.7	0.2
125°	27.2	27.3	26.0	23.1	18.7	14.9	10.4	6.2	2.6	0.7	0.2
127.5°	24.7	24.8	23.7	21.2	17.4	13.8	9.8	5.9	2.5	0.6	0.2
130°	22.3	22.4	21.5	19.3	16.0	12.9	9.1	5.5	2.3	0.6	0.2
132.5°	20.2	20.2	19.5	17.8	14.8	12.0	8.4	5.1	2.1	0.5	0.2
135°	18.4	18.4	17.9	16.3	13.6	11.1	7.8	4.7	1.9	0.5	0.2
137.5°	16.7	16.8	16.3	14.9	12.5	10.1	7.1	4.2	1.7	0.4	0.2
140°	15.3	15.3	14.9	13.6	11.4	9.2	6.6	3.8	1.5	0.4	0.2
142.5°	13.9	14.0	13.5	12.4	10.4	8.4	6.0	3.4	1.3	0.4	0.2
145°	12.6	12.6	12.2	11.2	9.3	7.6	5.3	3.0	1.2	0.3	0.2
147.5°	11.2	11.3	11.0	10.0	8.3	6.9	4.7	2.6	1.0	0.3	0.2
150°	10.0	10.0	9.7	8.8	7.5	6.0	4.1	2.3	0.8	0.3	0.2
152.5°	8.7	8.7	8.4	7.8	6.5	5.2	3.5	1.9	0.7	0.3	0.2
155°	7.6	7.6	7.4	6.7	5.6	4.4	2.9	1.5	0.5	0.3	0.2
157.5°	6.4	6.4	6.2	5.6	4.6	3.6	2.4	1.2	0.4	0.3	0.2
160°	5.2	5.2	5.1	4.5	3.7	2.9	1.8	0.9	0.3	0.2	0.2
162.5°	4.1	4.1	3.9	3.5	2.8	2.2	1.4	0.7	0.3	0.2	0.2
165°	3.0	3.0	2.9	2.6	2.1	1.5	0.9	0.4	0.3	0.2	0.2
167.5°	2.0	2.0	1.9	1.6	1.2	0.9	0.5	0.3	0.3	0.2	0.2
170°	0.8	0.9	0.8	0.6	0.4	0.3	0.3	0.3	0.3	0.2	0.2
172.5°	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.2
175°	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.2
177.5°	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.2
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°	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5°	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.5°	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10°	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.5°	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15°	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.5°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52.5°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55°	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.1	0.1	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	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1
92.5°	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1
95°	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1
97.5°	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1
100°	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1
102.5°	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1
105°	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1
107.5°	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1
110°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1



REPORT NUMBER: P10071

CATALOG NUMBER: 1237-RD-x-20T3

**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1
115°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1
117.5°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1
120°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.2	0.1	0.1	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)