

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: P10078

Luminaire Tested: **1237C-RD-x-MHT4.5**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-31-95  
Report Number: P10078  
Test Lab: PEACHTREE CITY  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMIERE  
Catalog Number: 1237C-RD-x-MHT4.5  
Description: LUMIERE 7 INCH ROUND HID STEP LIGHT  
WITH CROSS FACE PLATE AND SAND BLASTED LENS  
WITH REFLECTOR  
Light Source: BI PIN T4.5 CLEAR CERAMIC METAL HALIDE LAMP  
CMH20/TC/830 20 WATTS  
Ballast/Driver: B138

**Summary**

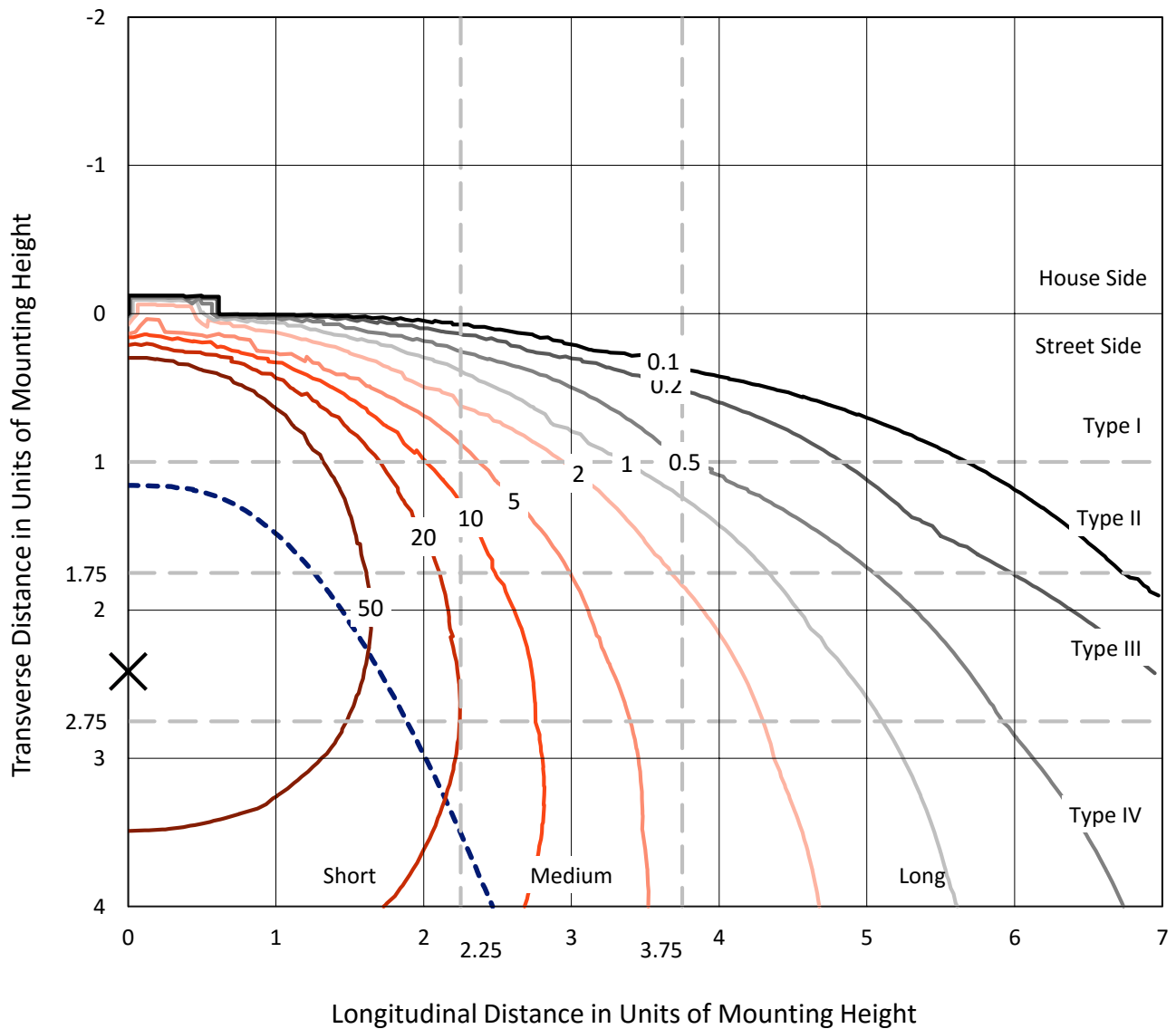
Lumens per Lamp: 1700 (1 lamp)  
Luminaire Lumens: 748 lumens  
Efficiency: 44.0%  
Efficacy: 29.9 lumens/watt  
Luminous Opening: Circular (Dia: 0.46' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B0 - U3 - G1

Input Watts (W): 25  
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

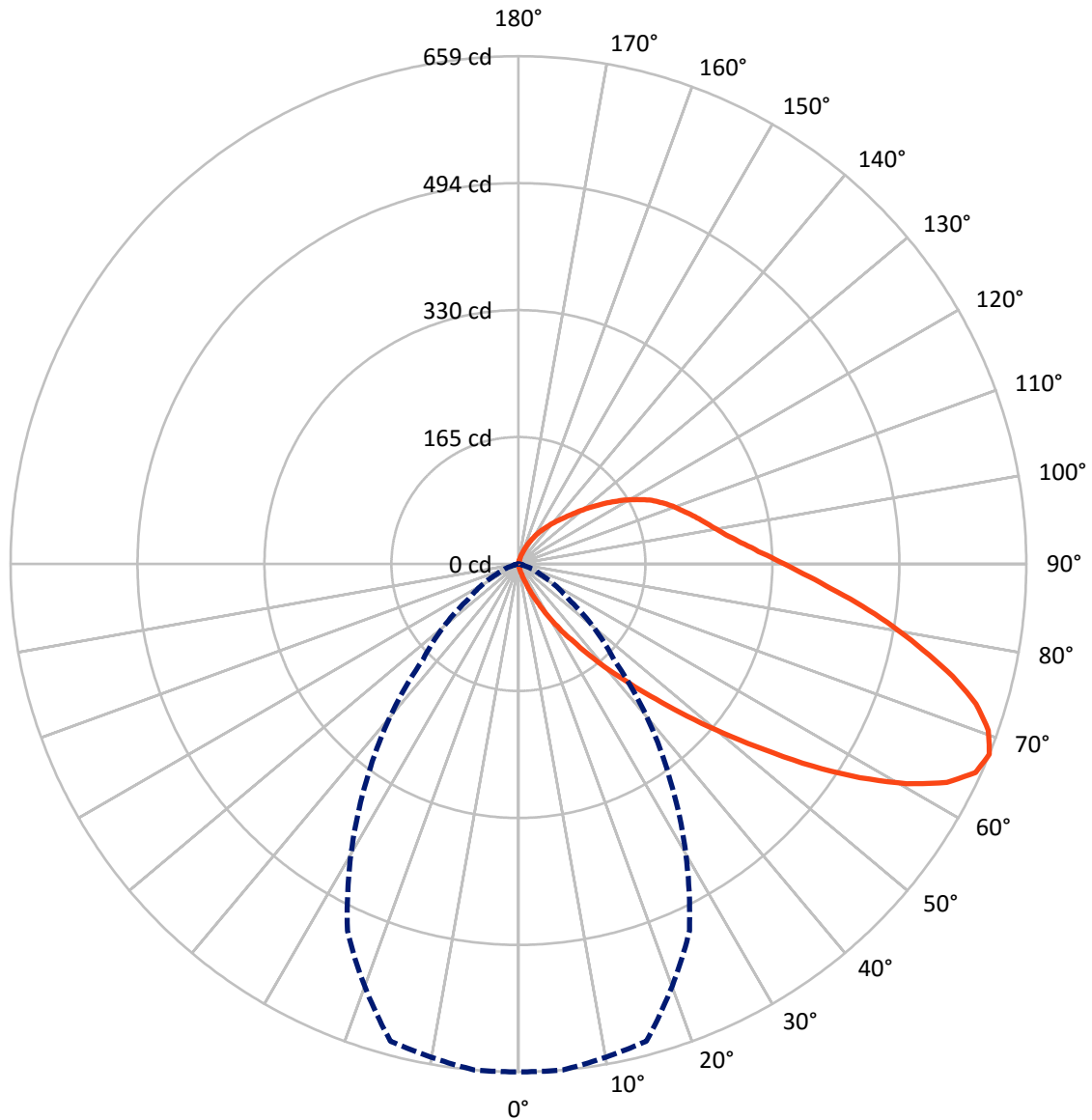
× Max cd  
 - - - 1/2 Max cd



Based on 0.5 foot mounting height. Maximum calculated value = 366.3 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 0-Deg Lateral      - - - Horizontal Cone Through 67.5-Deg Vertical

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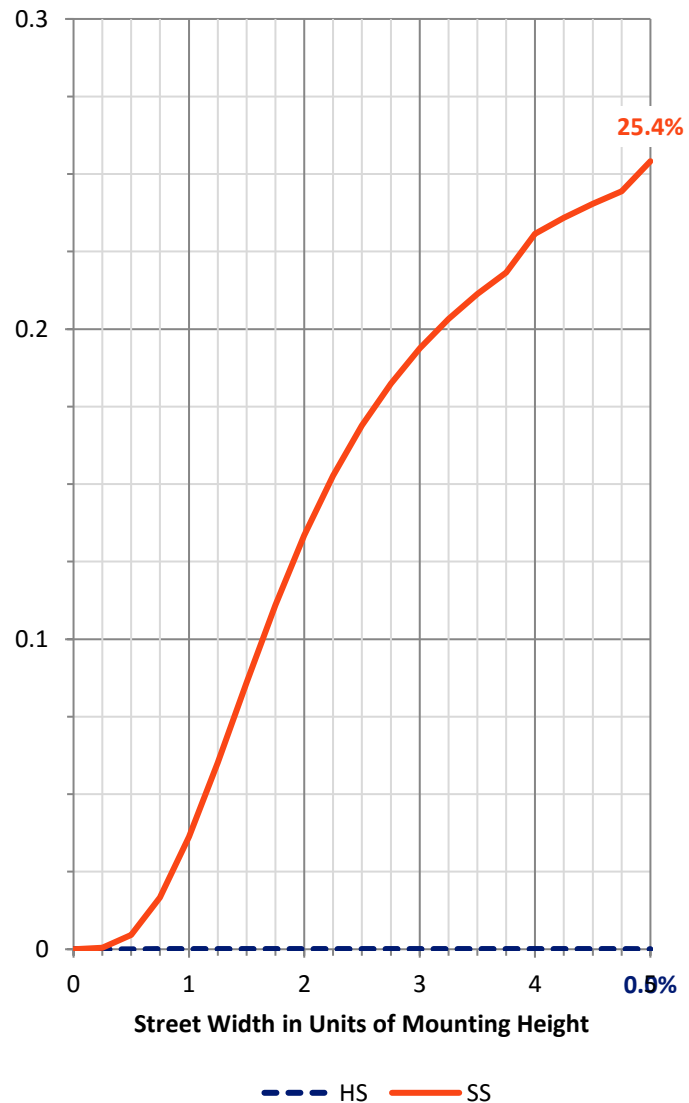
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	0.0	0.1	0.1
	% Lamp	0.0	0.0	0.0
<b>Street Side</b>	Lumens	512.4	235.4	747.9
	% Lamp	30.1	13.8	44.0
<b>Total</b>	Lumens	512.5	235.5	748.0
	% Lamp	30.1	13.9	44.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	0.1	0.0	0.0
10°-20°	0.7	0.1	0.0
20°-30°	5.1	0.7	0.3
30°-40°	17.4	2.3	1.0
40°-50°	42.7	5.7	2.5
50°-60°	87.4	11.7	5.1
60°-70°	131.4	17.6	7.7
70°-80°	128.4	17.2	7.6
80°-90°	99.5	13.3	5.9
90°-100°	76.0	10.2	4.5
100°-110°	59.9	8.0	3.5
110°-120°	44.0	5.9	2.6
120°-130°	28.0	3.7	1.6
130°-140°	15.9	2.1	0.9
140°-150°	8.1	1.1	0.5
150°-160°	3.0	0.4	0.2
160°-170°	0.6	0.1	0.0
170°-180°	0.0	0.0	0.0
0°-90°	512.5	68.5	30.1
0°-180°	748.0	100.0	44.0



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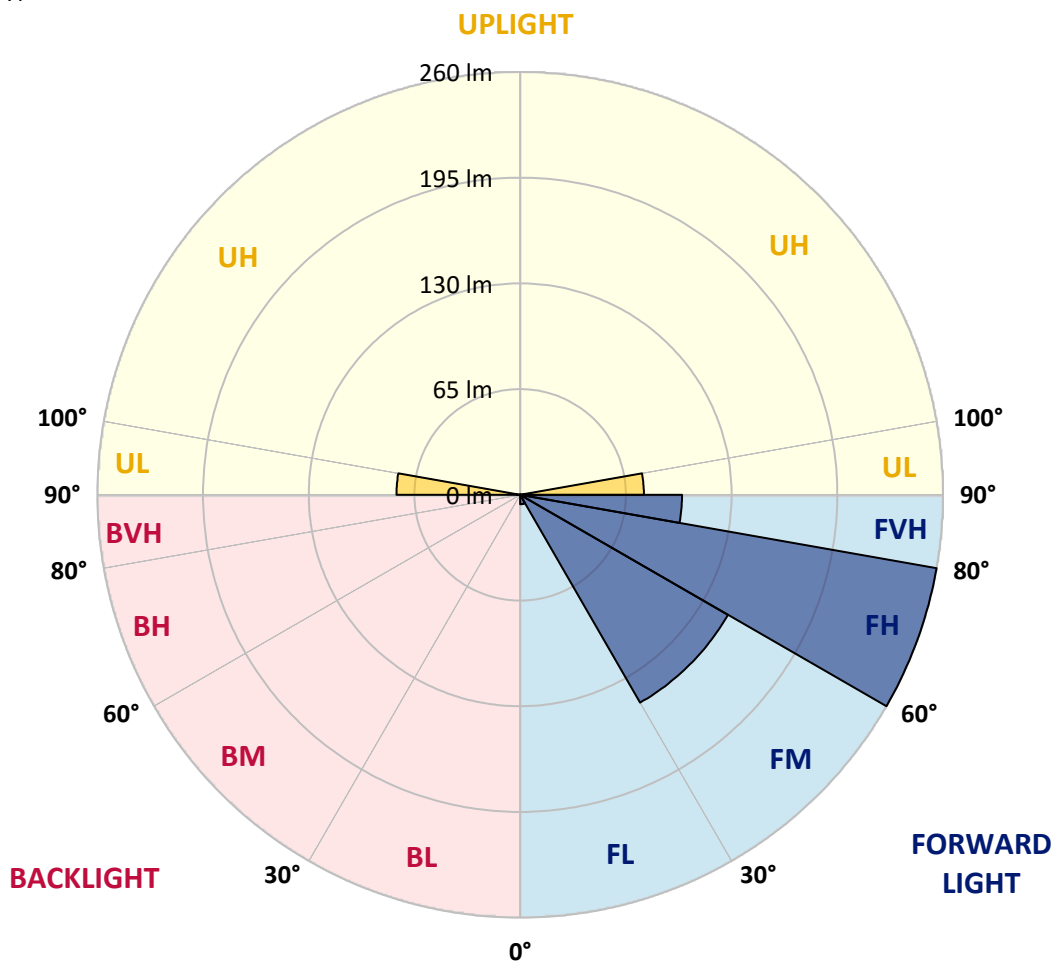
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Lamp	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	5.8	0.3			
FM (30°-60°)	147.4	8.7			
FH (60°-80°)	259.8	15.3			G0/660
FVH (80°-90°)	99.4	5.8			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°)	76.0	4.5		U3/500	
UH (100°-180°)	0.1	0.0		U1/10	
Trapped Light	952.0	56.0			

**BUG Rating: B0-U3-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	0	0	0	0	0	0	0	0	0	0	0
2.5°	0	0	0	1	1	1	1	1	1	1	1
5°	0	0	1	1	1	1	1	1	1	1	1
7.5°	1	1	1	1	1	1	1	1	1	1	1
10°	2	2	2	2	2	2	1	1	1	1	1
12.5°	5	5	4	3	3	2	2	1	1	1	1
15°	9	9	8	7	5	3	2	1	1	1	1
17.5°	15	15	14	11	8	5	3	2	1	1	1
20°	24	24	22	17	12	7	4	2	1	1	1
22.5°	35	35	32	26	18	11	5	2	1	1	1
25°	49	49	45	36	26	15	7	3	1	1	1
27.5°	65	64	59	48	35	21	10	4	1	1	0
30°	83	82	75	63	46	28	13	5	1	1	0
32.5°	104	102	94	78	58	36	17	6	2	1	0
35°	124	123	114	97	71	44	22	7	2	1	0
37.5°	151	148	137	116	86	54	27	9	2	1	0
40°	180	177	165	138	103	65	32	11	2	1	0
42.5°	212	210	197	165	121	76	38	13	2	1	0
45°	250	247	232	195	142	89	44	15	3	1	0
47.5°	295	293	274	230	166	102	49	17	3	1	0
50°	345	342	322	270	191	114	55	19	4	1	0
52.5°	400	398	379	313	220	128	60	21	4	1	0
55°	463	459	439	362	250	141	65	23	5	1	0
57.5°	523	521	501	411	279	153	69	25	5	1	0
60°	579	578	558	457	306	163	73	26	6	1	0
62.5°	624	624	605	495	327	170	75	28	6	1	0
65°	652	652	634	518	341	174	77	30	7	1	0
67.5°	659	659	641	525	344	175	79	31	7	1	0
70°	647	647	629	515	338	173	80	32	8	1	0
72.5°	621	620	600	492	325	169	80	33	8	1	0
75°	582	581	560	462	308	164	81	34	8	1	1
77.5°	537	537	518	425	288	160	81	35	9	1	1
80°	493	492	473	390	269	155	81	36	9	1	1
82.5°	450	447	430	357	251	150	81	36	9	1	1
85°	407	406	391	327	236	146	80	36	9	1	1
87.5°	370	369	356	301	222	141	78	36	9	1	1
90°	339	337	325	279	209	135	77	35	9	1	1
92.5°	312	310	301	261	199	130	74	35	9	1	1
95°	290	289	281	245	190	125	72	34	9	1	1
97.5°	272	271	264	233	181	119	69	33	9	1	1
100°	258	257	251	221	172	114	67	32	9	1	1
102.5°	246	245	239	211	163	108	64	31	8	1	1
105°	235	234	228	200	154	102	61	30	8	1	1
107.5°	224	224	218	190	145	95	58	29	8	1	1
110°	214	213	206	179	135	89	55	27	7	1	1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	203	202	194	166	125	83	52	26	7	1	1
115°	192	190	181	154	115	77	49	24	6	1	1
117.5°	178	177	167	141	105	72	46	23	6	1	1
120°	164	162	153	127	96	66	43	21	6	1	1
122.5°	149	147	137	114	87	61	40	20	5	1	1
125°	134	132	123	103	79	58	37	18	5	1	1
127.5°	120	118	109	92	72	54	34	17	4	1	1
130°	107	105	97	83	66	49	32	15	4	1	1
132.5°	94	93	86	74	59	45	29	14	3	1	1
135°	84	83	77	67	55	41	26	12	3	1	1
137.5°	75	74	69	60	50	37	23	11	3	1	1
140°	67	66	62	55	45	33	20	9	3	1	1
142.5°	59	58	56	49	40	29	18	8	2	1	1
145°	53	53	49	43	35	25	15	7	2	1	1
147.5°	46	46	43	37	30	21	12	5	2	1	1
150°	39	39	36	32	25	18	10	5	2	1	1
152.5°	33	32	30	26	20	14	8	4	2	1	1
155°	26	26	24	21	16	11	6	3	2	1	1
157.5°	20	20	19	16	12	8	5	3	1	1	1
160°	15	15	14	11	9	6	4	2	1	1	1
162.5°	10	10	9	8	6	4	3	2	1	1	1
165°	6	6	6	5	4	3	2	2	1	1	1
167.5°	4	4	4	3	3	2	2	1	1	1	1
170°	2	2	2	2	2	1	1	1	1	1	1
172.5°	0	0	0	1	1	1	1	1	1	1	1
175°	0	0	0	1	1	1	1	1	1	1	1
177.5°	0	0	0	1	1	1	1	1	1	1	1
180°	0	0	0	0	0	0	0	0	0	0	0





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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	0	0	0	0	0	0	0	0	0	0
2.5°	1	0	0	0	0	0	0	0	0	0
5°	1	0	0	0	0	0	0	0	0	0
7.5°	0	0	0	0	0	0	0	0	0	0
10°	0	0	0	0	0	0	0	0	0	0
12.5°	0	0	0	0	0	0	0	0	0	0
15°	0	0	0	0	0	0	0	0	0	0
17.5°	0	0	0	0	0	0	0	0	0	0
20°	0	0	0	0	0	0	0	0	0	0
22.5°	0	0	0	0	0	0	0	0	0	0
25°	0	0	0	0	0	0	0	0	0	0
27.5°	0	0	0	0	0	0	0	0	0	0
30°	0	0	0	0	0	0	0	0	0	0
32.5°	0	0	0	0	0	0	0	0	0	0
35°	0	0	0	0	0	0	0	0	0	0
37.5°	0	0	0	0	0	0	0	0	0	0
40°	0	0	0	0	0	0	0	0	0	0
42.5°	0	0	0	0	0	0	0	0	0	0
45°	0	0	0	0	0	0	0	0	0	0
47.5°	0	0	0	0	0	0	0	0	0	0
50°	0	0	0	0	0	0	0	0	0	0
52.5°	0	0	0	0	0	0	0	0	0	0
55°	0	0	0	0	0	0	0	0	0	0
57.5°	0	0	0	0	0	0	0	0	0	0
60°	0	0	0	0	0	0	0	0	0	0
62.5°	0	0	0	0	0	0	0	0	0	0
65°	0	0	0	0	0	0	0	0	0	0
67.5°	0	0	0	0	0	0	0	0	0	0
70°	0	0	0	0	0	0	0	0	0	0
72.5°	0	0	0	0	0	0	0	0	0	0
75°	0	0	0	0	0	0	0	0	0	0
77.5°	0	0	0	0	0	0	0	0	0	0
80°	0	0	0	0	0	0	0	0	0	0
82.5°	0	0	0	0	0	0	0	0	0	0
85°	0	0	0	0	0	0	0	0	0	0
87.5°	0	0	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0	0
92.5°	0	0	0	0	0	0	0	0	0	0
95°	0	0	0	0	0	0	0	0	0	0
97.5°	0	0	0	0	0	0	0	0	0	0
100°	0	0	0	0	0	0	0	0	0	0
102.5°	0	0	0	0	0	0	0	0	0	0
105°	0	0	0	0	0	0	0	0	0	0
107.5°	0	0	0	0	0	0	0	0	0	0
110°	0	0	0	0	0	0	0	0	0	0



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**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
115°	0	0	0	0	0	0	0	0	0	0
117.5°	0	0	0	0	0	0	0	0	0	0
120°	0	0	0	0	0	0	0	0	0	0
122.5°	0	0	0	0	0	0	0	0	0	0
125°	0	0	0	0	0	0	0	0	0	0
127.5°	0	0	0	0	0	0	0	0	0	0
130°	0	0	0	0	0	0	0	0	0	0
132.5°	0	0	0	0	0	0	0	0	0	0
135°	0	0	0	0	0	0	0	0	0	0
137.5°	0	0	0	0	0	0	0	0	0	0
140°	0	0	0	0	0	0	0	0	0	0
142.5°	0	0	0	0	0	0	0	0	0	0
145°	0	0	0	0	0	0	0	0	0	0
147.5°	0	0	0	0	0	0	0	0	0	0
150°	0	0	0	0	0	0	0	0	0	0
152.5°	0	0	0	0	0	0	0	0	0	0
155°	0	0	0	0	0	0	0	0	0	0
157.5°	0	0	0	0	0	0	0	0	0	0
160°	0	0	0	0	0	0	0	0	0	0
162.5°	0	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0	0
167.5°	0	0	0	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0	0	0	0
172.5°	0	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0	0
177.5°	1	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0

(END OF REPORT)