

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: P10056

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-31-95
Report Number: P10056
Test Lab: PEACHTREE CITY
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMIERE
Catalog Number: 1237-RD-x-MHT4.5
Description: LUMIERE 7 INCH ROUND HID STEP LIGHT
WITH CIRCULAR OPEN FACE PLATE AND SAND BLASTED LENS
Light Source: BI PIN T4.5 CLEAR CERAMIC METAL HALIDE LAMP
CMH20/TC/830 20 WATTS
Ballast/Driver: -

Summary

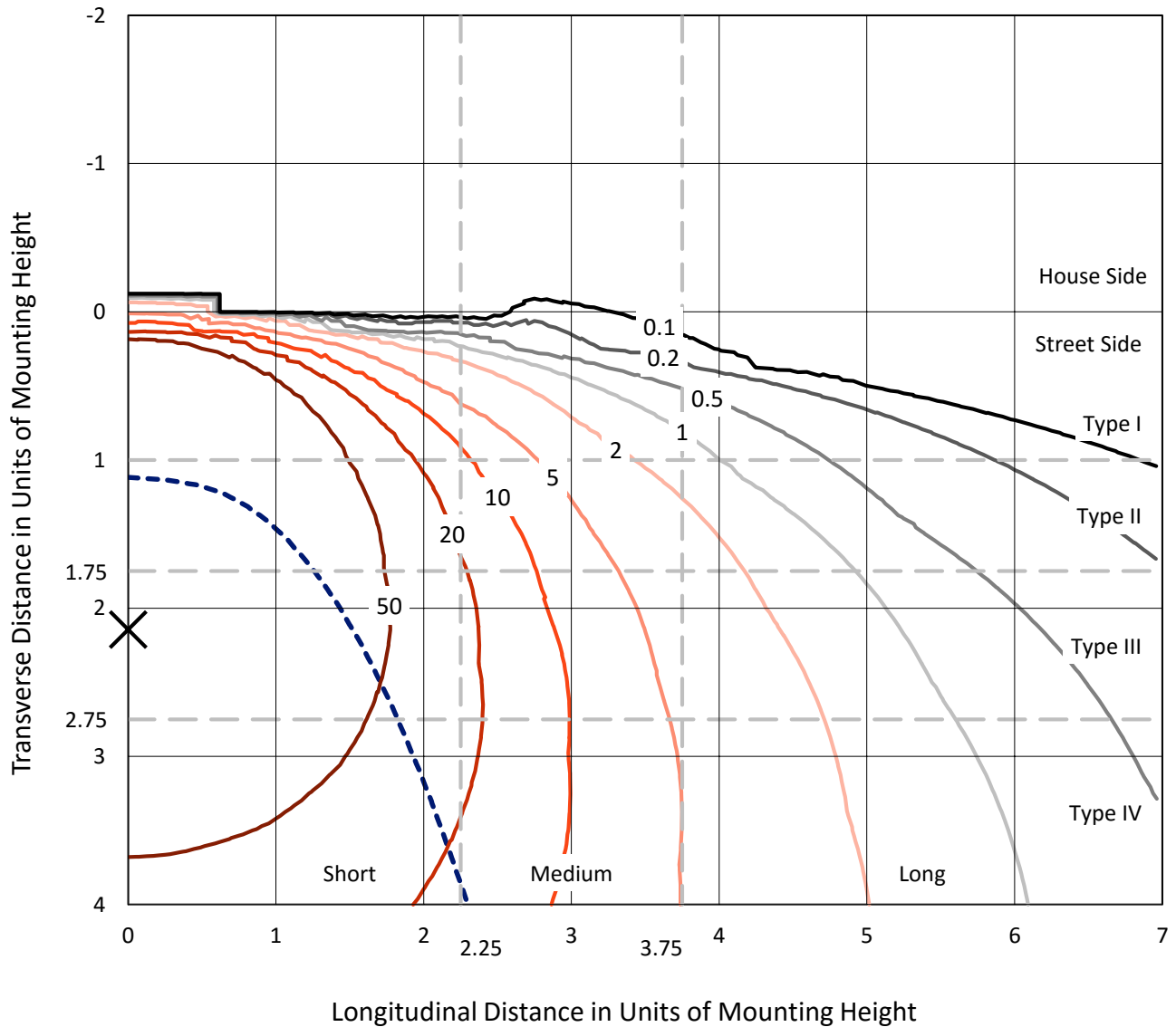
Lumens per Lamp: 1700 (1 lamp)
Luminaire Lumens: 930 lumens
Efficiency: 54.7%
Efficacy: 37.2 lumens/watt
Luminous Opening: Circular (Dia: 0.46' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B0 - U3 - G2

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

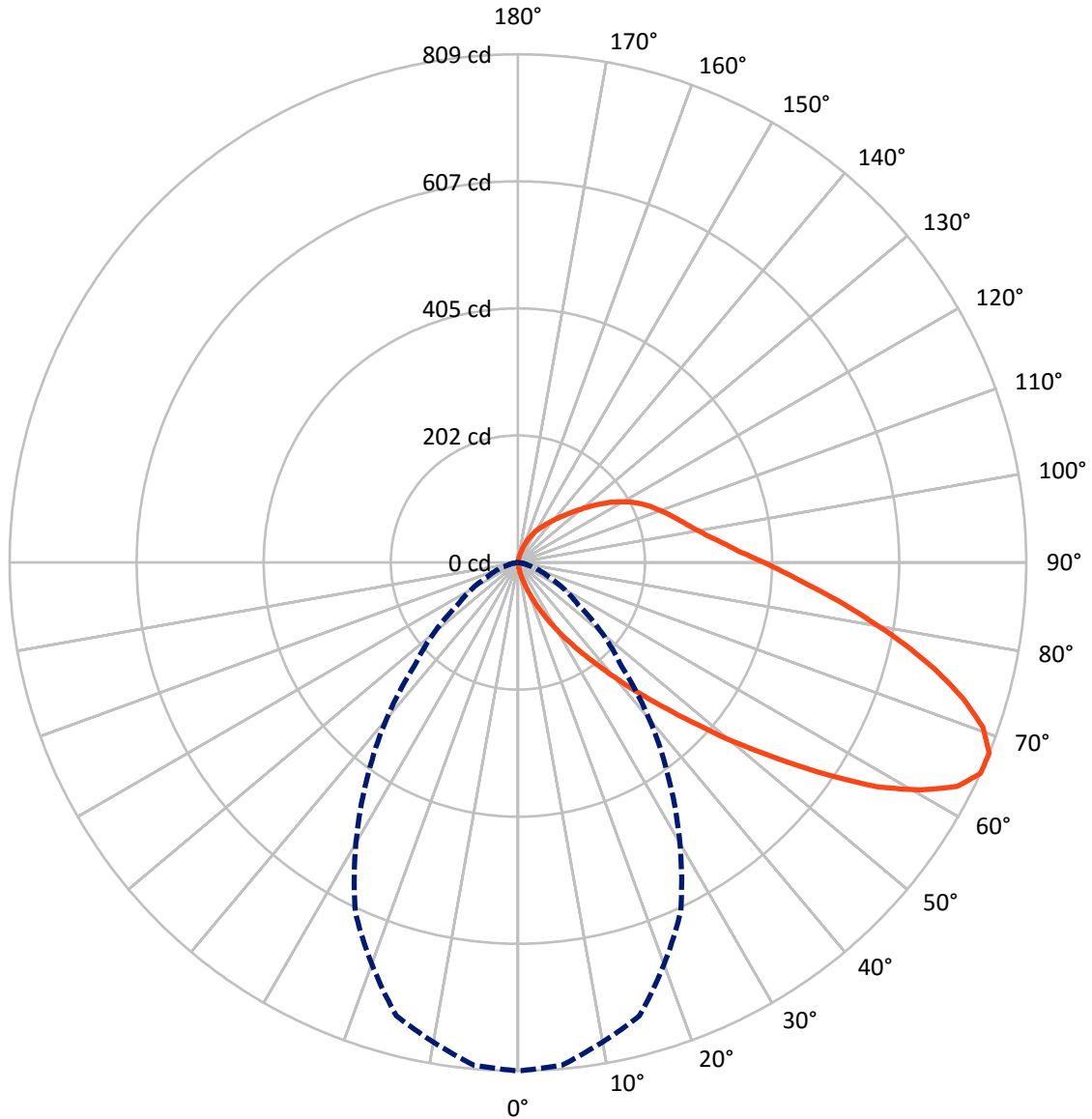
× Max cd
 - - - 1/2 Max cd



Based on 0.5 foot mounting height. Maximum calculated value = 479.9 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 0-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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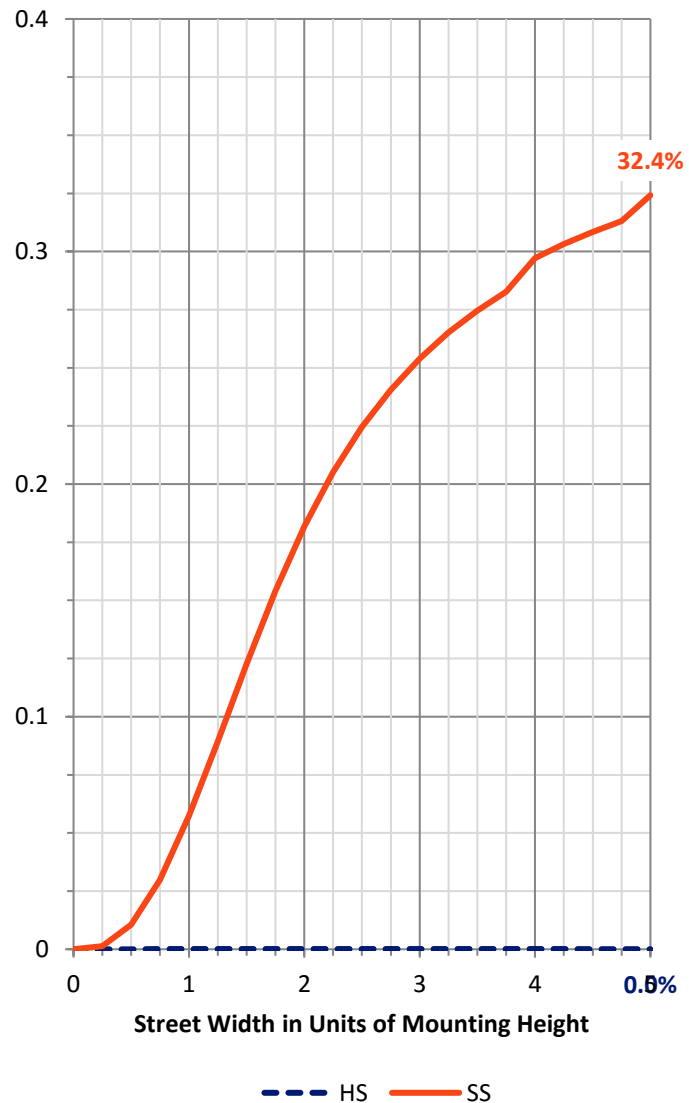
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	0.0	0.4	0.4
	% Lamp	0.0	0.0	0.0
Street Side	Lumens	642.8	286.8	929.6
	% Lamp	37.8	16.9	54.7
Total	Lumens	642.8	287.2	930.0
	% Lamp	37.8	16.9	54.7

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	0.1	0.0	0.0
10°-20°	2.1	0.2	0.1
20°-30°	9.9	1.1	0.6
30°-40°	27.1	2.9	1.6
40°-50°	59.6	6.4	3.5
50°-60°	114.3	12.3	6.7
60°-70°	162.4	17.5	9.6
70°-80°	152.2	16.4	9.0
80°-90°	115.0	12.4	6.8
90°-100°	87.9	9.4	5.2
100°-110°	70.0	7.5	4.1
110°-120°	53.2	5.7	3.1
120°-130°	35.9	3.9	2.1
130°-140°	21.8	2.3	1.3
140°-150°	12.0	1.3	0.7
150°-160°	5.1	0.6	0.3
160°-170°	1.2	0.1	0.1
170°-180°	0.1	0.0	0.0
0°-90°	642.8	69.1	37.8
0°-180°	930.0	100.0	54.7



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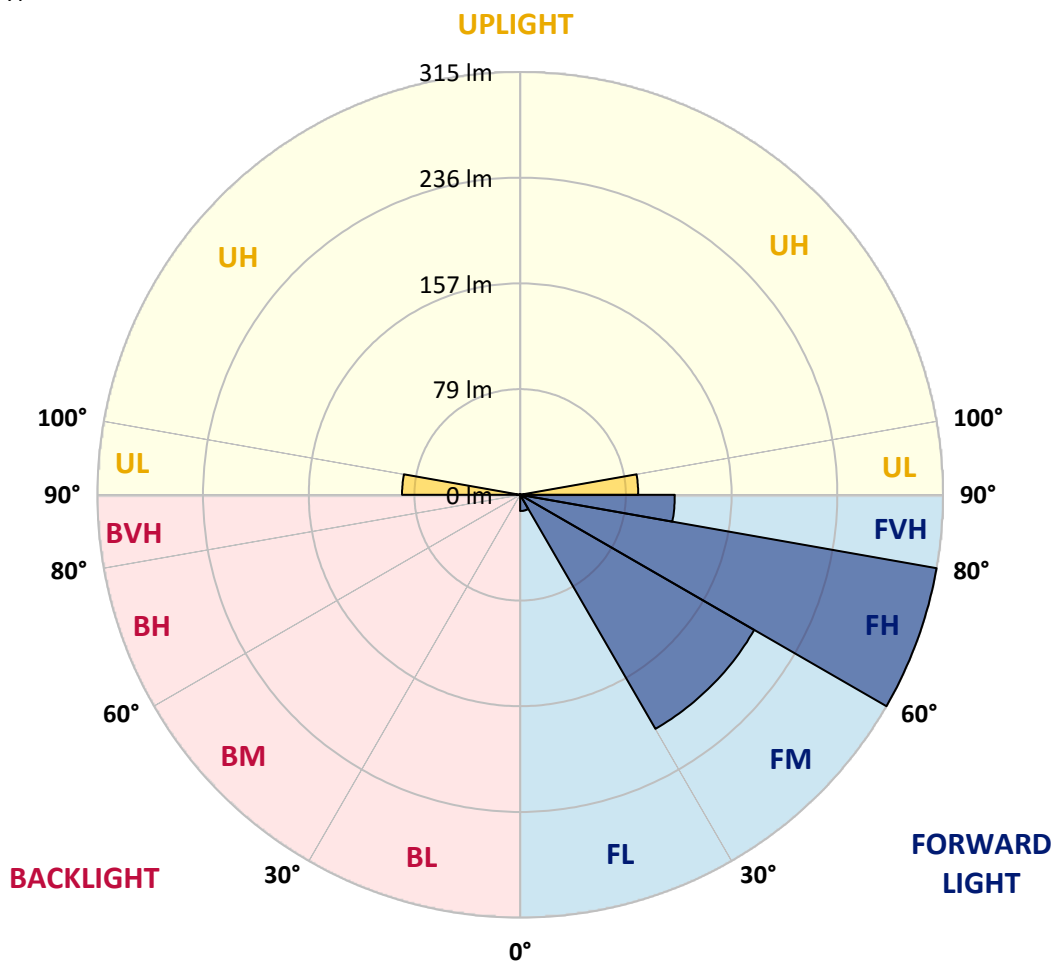
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Lamp	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	12.1	0.7			
FM (30°-60°)	201.1	11.8			
FH (60°-80°)	314.6	18.5			G0/660
FVH (80°-90°)	115.0	6.8			G2/225
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°)	87.9	5.2		U3/500	
UH (100°-180°)	0.4	0.0		U1/10	
Trapped Light	770.0	45.3			

BUG Rating: B0-U3-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1	1	1	1	1	1	1	1	1	1	1
2.5°	0	0	1	1	1	2	2	1	1	1	1
5°	1	1	1	1	1	2	2	2	1	1	1
7.5°	4	4	3	3	2	2	2	2	1	1	1
10°	10	10	9	8	6	4	2	2	1	1	1
12.5°	18	18	16	14	11	7	4	2	1	1	1
15°	28	27	26	22	17	12	7	3	1	1	1
17.5°	39	39	37	32	25	18	10	4	1	1	1
20°	53	53	49	43	34	24	15	6	2	1	1
22.5°	68	68	63	55	44	32	19	9	2	1	1
25°	86	85	80	69	55	40	25	11	3	1	1
27.5°	105	104	98	85	68	49	30	14	3	1	1
30°	128	127	118	102	82	59	36	17	4	1	0
32.5°	150	149	139	122	97	69	43	20	5	1	0
35°	178	176	165	142	114	81	50	23	6	1	0
37.5°	207	207	193	167	132	94	57	27	7	1	0
40°	244	241	225	194	152	107	64	30	8	1	0
42.5°	285	282	262	225	175	122	72	33	9	1	0
45°	331	329	305	260	200	135	80	37	10	1	0
47.5°	387	382	357	302	229	152	87	40	11	1	0
50°	451	445	413	348	259	168	94	43	12	1	0
52.5°	519	517	477	399	292	185	101	45	14	1	0
55°	595	591	548	455	327	200	106	47	15	1	0
57.5°	673	664	616	509	360	213	111	49	16	1	0
60°	735	729	678	556	388	224	114	51	16	1	0
62.5°	785	778	723	592	408	231	116	53	17	1	0
65°	809	803	747	613	418	233	117	54	18	2	0
67.5°	809	801	746	613	418	231	118	56	19	2	0
70°	785	777	724	596	406	226	117	56	20	2	1
72.5°	741	735	685	563	386	218	116	57	20	2	1
75°	688	682	634	522	361	209	114	57	21	2	1
77.5°	630	625	579	479	334	199	113	58	21	2	1
80°	571	567	526	436	309	191	110	57	21	2	1
82.5°	517	512	476	396	286	182	108	57	22	2	1
85°	465	463	431	362	267	175	106	57	22	2	1
87.5°	422	417	390	332	250	169	104	56	22	2	1
90°	384	380	358	308	237	162	101	56	22	2	1
92.5°	351	349	329	287	225	156	99	55	21	2	1
95°	327	323	307	270	215	151	96	54	21	2	1
97.5°	305	303	289	257	205	145	93	53	21	2	1
100°	288	286	273	244	196	139	90	52	20	2	1
102.5°	274	272	261	232	187	133	87	50	20	2	1
105°	262	261	249	221	177	126	84	49	19	2	1
107.5°	251	249	237	210	168	120	81	47	19	2	1
110°	239	238	226	199	158	113	78	46	18	2	1



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	229	227	215	187	148	107	74	44	17	2	1
115°	217	215	202	175	138	101	71	42	16	2	1
117.5°	205	203	190	162	128	95	67	40	16	1	1
120°	190	189	175	150	118	89	64	38	15	1	1
122.5°	176	173	161	137	110	83	60	36	14	1	1
125°	160	158	146	125	102	78	57	34	13	1	1
127.5°	145	143	132	115	94	73	53	32	12	1	1
130°	130	129	120	105	87	68	50	29	11	1	1
132.5°	117	116	108	96	80	64	46	27	10	1	1
135°	105	104	98	88	74	60	43	25	9	1	1
137.5°	95	94	89	80	68	55	39	22	8	1	1
140°	86	85	81	73	64	51	36	20	7	1	1
142.5°	78	77	73	66	58	46	32	18	6	1	1
145°	70	69	66	61	52	41	28	16	5	1	1
147.5°	64	64	61	55	47	36	25	13	4	1	1
150°	57	56	53	48	41	32	21	11	3	1	1
152.5°	49	49	46	42	35	27	18	9	3	1	1
155°	42	42	40	36	30	23	15	7	2	1	1
157.5°	35	35	33	29	24	18	12	6	2	1	1
160°	28	28	26	23	19	14	9	4	1	1	1
162.5°	21	21	20	18	14	11	6	3	1	1	1
165°	15	15	14	12	10	7	4	2	1	1	1
167.5°	10	10	9	8	6	4	2	1	1	1	1
170°	3	3	3	2	2	2	2	1	1	1	1
172.5°	0	0	1	1	1	1	1	1	1	1	1
175°	0	0	1	1	1	1	1	1	1	1	1
177.5°	0	0	1	1	1	1	1	1	1	1	1
180°	1	1	1	1	1	1	1	1	1	1	1



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1	1	1	1	1	1	1	1	1	1
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	1
100°	0	0	0	0	0	0	0	0	1	1
102.5°	0	0	0	0	0	0	0	0	1	1
105°	1	0	0	0	0	0	0	1	1	1
107.5°	0	0	0	0	0	0	0	0	1	1
110°	1	0	0	0	0	0	0	0	1	1



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	1	0	0	0	0	0	0	0	1	1
115°	1	0	0	0	0	0	0	0	0	0
117.5°	1	0	0	0	0	0	0	0	0	0
120°	1	0	0	0	0	0	0	0	0	0
122.5°	1	0	0	0	0	0	0	0	0	0
125°	1	0	0	0	0	0	0	0	0	0
127.5°	1	0	0	0	0	0	0	0	0	0
130°	1	0	0	0	0	0	0	0	0	0
132.5°	1	0	0	0	0	0	0	0	0	0
135°	1	0	0	0	0	0	0	0	0	0
137.5°	1	0	0	0	0	0	0	0	0	0
140°	1	0	0	0	0	0	0	0	0	0
142.5°	1	0	0	0	0	0	0	0	0	0
145°	1	0	0	0	0	0	0	0	0	0
147.5°	1	0	0	0	0	0	0	0	0	0
150°	1	0	0	0	0	0	0	0	0	0
152.5°	1	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°	1	0	0	0	0	0	0	0	0	0
170°	1	0	0	0	0	0	0	0	0	0
172.5°	1	0	0	0	0	0	0	0	0	0
175°	1	0	0	0	0	0	0	0	0	0
177.5°	1	0	0	0	0	0	0	0	0	0
180°	1	1	1	1	1	1	1	1	1	1

(END OF REPORT)