

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P242014

Luminaire Tested: **PRS415D010-S4M12-41SWWH**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P242014
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1802-584-62)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: PRS415D010-S4M12-41SWWH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, WITH 4" WALL WASH DISTRIBUTION, WW TRIM HAZE
Light Source: ARRAYS OF HIGH LUMEN LEDS 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 767.0 lumens
Efficiency: N/A
Efficacy: 63.9 lumens/watt
Spacing Criteria (0/90/45): 1 / 0.96 / 1.05
Luminous Opening: Rectangular (W 0.38' x L: 0.38' x H: 0')
CIE Type: Direct

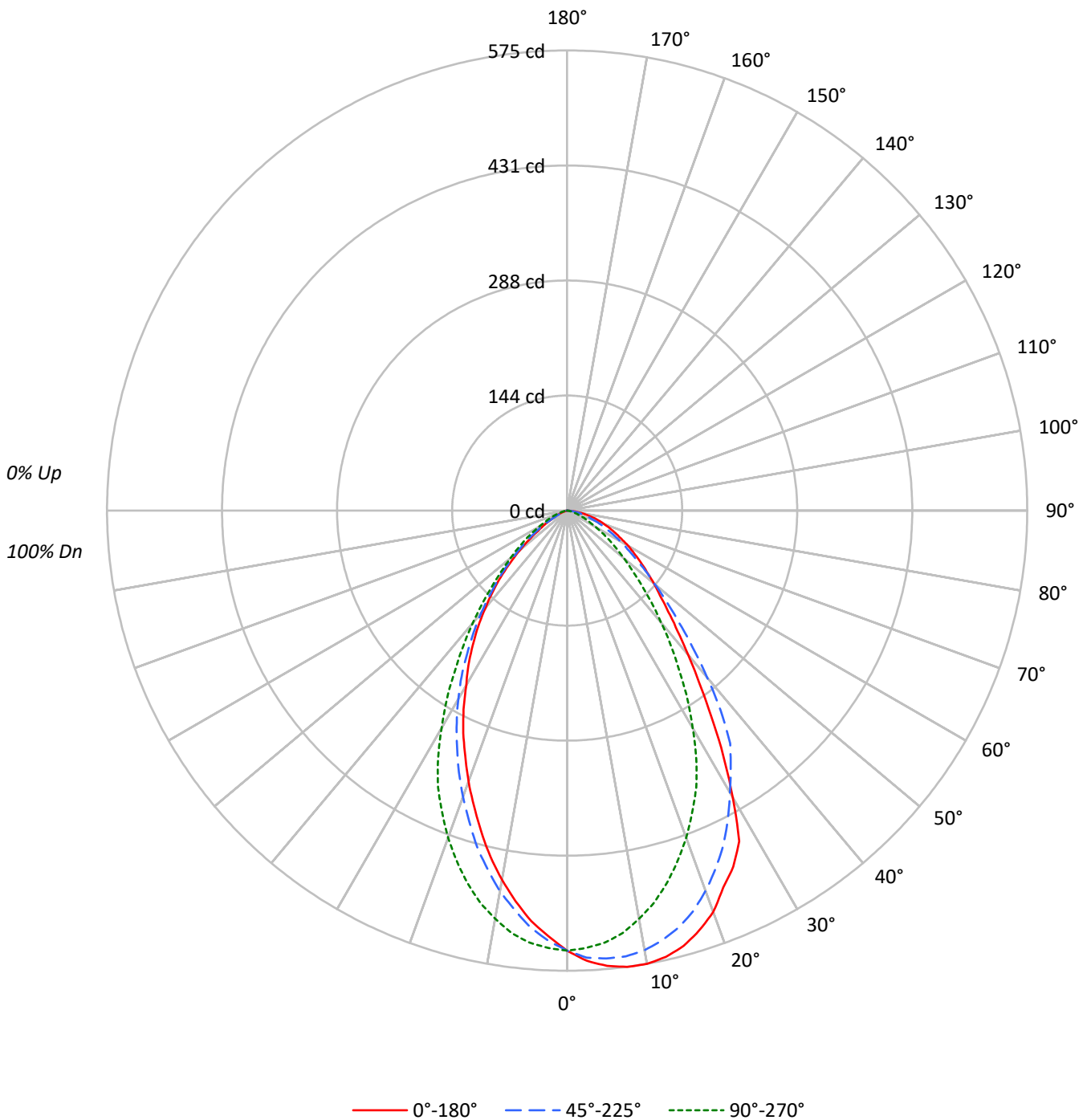
Input Watts (W): 12
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	112	108	105	102	109	106	103	101	102	100	97	98	96	95	95	93	92	90					90			
2	104	98	93	88	102	96	91	87	93	89	86	90	87	84	87	84	82	80					80			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	74	80	76	73	71					71			
4	91	81	74	69	89	80	73	68	78	72	68	76	71	67	74	69	66	64					64			
5	85	74	67	62	83	73	67	61	71	65	61	70	64	60	68	63	60	58					58			
6	79	68	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53					53			
7	75	63	56	51	73	62	56	51	61	55	50	60	54	50	59	53	50	48					48			
8	70	59	51	46	69	58	51	46	57	51	46	56	50	46	55	49	46	44					44			
9	66	55	48	43	65	54	47	43	53	47	42	52	46	42	51	46	42	41					41			
10	62	51	44	40	61	51	44	39	50	44	39	49	43	39	48	43	39	38					38			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	42084	42084	42084
5°	43881	41630	39578
10°	44699	40246	36406
15°	44622	38172	32886
20°	43481	35433	29349
25°	41476	32237	25920
30°	36565	27717	22291
35°	29303	22819	19202
40°	23471	18265	15867
45°	19355	14159	12708
50°	16850	10967	9217
55°	14960	8554	5872
60°	13487	6338	3888
65°	12081	4600	2409
70°	11056	3290	1499
75°	9878	1981	799
80°	8243	1190	573
85°	5884	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.1	6.7
10°-20°	136.1	17.7
20°-30°	179.1	23.4
30°-40°	166.3	21.7
40°-50°	116.1	15.1
50°-60°	68.2	8.9
60°-70°	33.8	4.4
70°-80°	13.6	1.8
80°-90°	2.5	0.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	366.3	47.8
0°-40°	532.6	69.4
0°-60°	717.0	93.5
0°-90°	767.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	767.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	550	550	550	550	550	
5°	571	562	542	523	515	55
15°	563	539	482	435	415	158
25°	491	462	382	326	307	223
35°	314	355	244	218	206	198
45°	179	198	131	121	117	140
55°	112	104	64	52	44	101
65°	67	53	25	11	13	66
75°	33	23	7	3	3	35
85°	7	4	0	0	0	8
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	549.8	549.8	549.8	549.8	549.8	549.8	549.8	549.8	549.8	549.8	549.8
2.5°	563.1	561.8	561.8	561.8	561.8	560.5	560.5	560.5	559.1	559.1	559.1
5°	571.1	571.1	569.8	569.8	568.5	568.5	568.5	567.1	565.8	564.5	561.8
7.5°	575.1	575.1	573.8	573.8	572.5	571.1	571.1	568.5	567.1	564.5	561.8
10°	575.1	575.1	573.8	573.8	571.1	569.8	569.8	568.5	564.5	561.8	557.8
12.5°	571.1	571.1	569.8	568.5	567.1	565.8	564.5	561.8	557.8	553.8	549.8
15°	563.1	563.1	561.8	560.5	557.8	556.5	555.1	552.5	548.5	543.1	539.1
17.5°	549.8	549.8	548.5	547.1	545.8	543.1	541.8	537.8	533.8	529.8	524.4
20°	533.8	532.4	532.4	531.1	528.4	528.4	525.8	521.8	517.8	511.1	505.8
22.5°	509.8	511.1	511.1	508.4	505.8	505.8	503.1	501.8	496.4	491.1	484.4
25°	491.1	489.7	489.7	487.1	483.1	483.1	481.7	477.7	472.4	467.1	461.7
27.5°	465.7	464.4	464.4	464.4	460.4	460.4	457.7	452.4	447.0	443.0	435.0
30°	413.7	417.7	417.7	421.7	425.7	428.4	431.0	428.4	421.7	415.0	407.0
32.5°	363.0	365.6	368.3	372.3	377.6	381.7	385.7	389.7	395.0	388.3	380.3
35°	313.6	316.3	317.6	322.9	329.6	330.9	336.3	345.6	351.0	356.3	355.0
37.5°	270.9	272.2	274.9	278.9	284.2	288.2	292.2	298.9	308.3	316.3	314.9
40°	234.9	233.5	237.5	238.9	244.2	248.2	253.5	258.9	268.2	272.2	272.2
42.5°	204.2	204.2	205.5	208.2	212.2	214.8	217.5	222.9	230.9	232.2	232.2
45°	178.8	178.8	180.2	182.8	185.5	185.5	189.5	194.8	196.2	197.5	197.5
47.5°	157.5	158.8	158.8	160.1	161.5	164.1	165.5	168.1	168.1	168.1	168.1
50°	141.5	141.5	141.5	142.8	144.1	145.5	145.5	145.5	145.5	144.1	142.8
52.5°	125.4	125.4	125.4	126.8	126.8	128.1	128.1	126.8	125.4	124.1	122.8
55°	112.1	110.8	112.1	112.1	113.4	113.4	112.1	110.8	109.4	106.8	104.1
57.5°	98.7	98.7	98.7	98.7	100.1	98.7	98.7	97.4	94.7	92.1	89.4
60°	88.1	86.7	86.7	86.7	88.1	86.7	86.7	84.1	82.7	78.7	76.1
62.5°	76.1	76.1	76.1	77.4	76.1	76.1	74.7	72.1	70.7	68.1	65.4
65°	66.7	66.7	66.7	66.7	65.4	64.1	64.1	61.4	60.1	57.4	53.4
67.5°	57.4	57.4	57.4	57.4	56.0	54.7	54.7	52.0	50.7	48.0	45.4
70°	49.4	48.0	49.4	48.0	46.7	45.4	45.4	44.0	41.4	38.7	36.0
72.5°	41.4	41.4	41.4	40.0	38.7	37.4	37.4	34.7	33.4	32.0	29.4
75°	33.4	33.4	33.4	32.0	30.7	30.7	29.4	28.0	26.7	25.4	22.7
77.5°	25.4	25.4	25.4	25.4	24.0	22.7	22.7	21.4	20.0	18.7	17.3
80°	18.7	18.7	18.7	17.3	17.3	17.3	16.0	16.0	14.7	13.3	12.0
82.5°	12.0	12.0	12.0	12.0	10.7	10.7	10.7	9.3	9.3	8.0	6.7
85°	6.7	6.7	6.7	6.7	5.3	5.3	5.3	5.3	5.3	4.0	4.0
87.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	549.8	549.8	549.8	549.8	549.8	549.8	549.8	549.8	549.8	549.8	549.8
2.5°	557.8	556.5	555.1	553.8	553.8	552.5	551.1	549.8	548.5	547.1	547.1
5°	560.5	557.8	556.5	553.8	552.5	552.5	549.8	547.1	544.5	541.8	539.1
7.5°	559.1	556.5	552.5	549.8	548.5	545.8	543.1	539.1	535.1	532.4	528.4
10°	553.8	549.8	545.8	540.5	539.1	536.4	532.4	527.1	523.1	517.8	513.8
12.5°	545.8	540.5	535.1	529.8	527.1	524.4	519.1	512.4	507.1	501.8	495.1
15°	532.4	528.4	520.4	515.1	511.1	508.4	501.8	495.1	488.4	481.7	476.4
17.5°	516.4	511.1	504.4	496.4	492.4	489.7	481.7	472.4	465.7	459.0	453.7
20°	500.4	492.4	484.4	476.4	471.1	468.4	459.0	449.7	443.0	435.0	427.0
22.5°	479.1	469.7	461.7	452.4	448.4	443.0	435.0	424.4	415.0	408.3	399.0
25°	453.7	447.0	436.4	427.0	421.7	417.7	407.0	399.0	389.7	381.7	372.3
27.5°	428.4	419.0	411.0	401.7	395.0	389.7	380.3	369.6	360.3	349.6	341.6
30°	400.3	393.7	383.0	368.3	361.6	356.3	344.3	332.3	322.9	313.6	306.9
32.5°	372.3	359.0	347.0	333.6	326.9	321.6	308.3	298.9	288.2	280.2	273.6
35°	338.9	325.6	312.3	296.2	290.9	284.2	272.2	262.9	252.2	244.2	238.9
37.5°	305.6	289.6	274.9	262.9	257.5	249.5	238.9	228.2	220.2	213.5	206.8
40°	269.6	256.2	242.9	228.2	222.9	217.5	206.8	198.8	188.2	182.8	177.5
42.5°	229.5	224.2	210.8	198.8	192.2	186.8	176.1	168.1	161.5	156.1	150.8
45°	194.8	190.8	181.5	169.5	165.5	160.1	150.8	141.5	136.1	130.8	126.8
47.5°	165.5	161.5	154.8	144.1	138.8	134.8	126.8	120.1	114.8	109.4	106.8
50°	140.1	136.1	129.4	122.8	118.8	113.4	106.8	101.4	96.1	92.1	89.4
52.5°	118.8	114.8	108.1	102.8	100.1	96.1	89.4	85.4	80.1	77.4	74.7
55°	101.4	97.4	92.1	86.7	84.1	80.1	74.7	69.4	66.7	64.1	61.4
57.5°	86.7	81.4	77.4	73.4	70.7	66.7	61.4	58.7	54.7	52.0	49.4
60°	73.4	69.4	65.4	60.1	57.4	56.0	50.7	46.7	44.0	41.4	38.7
62.5°	61.4	57.4	53.4	49.4	48.0	45.4	41.4	37.4	34.7	32.0	30.7
65°	50.7	48.0	44.0	40.0	38.7	36.0	32.0	29.4	26.7	25.4	24.0
67.5°	42.7	38.7	36.0	32.0	30.7	29.4	25.4	22.7	21.4	20.0	17.3
70°	33.4	30.7	28.0	25.4	24.0	22.7	20.0	17.3	16.0	14.7	13.3
72.5°	26.7	24.0	21.4	18.7	17.3	17.3	14.7	13.3	12.0	10.7	9.3
75°	21.4	18.7	16.0	14.7	13.3	12.0	10.7	9.3	8.0	6.7	6.7
77.5°	14.7	13.3	12.0	9.3	9.3	8.0	6.7	6.7	5.3	5.3	4.0
80°	10.7	9.3	8.0	6.7	5.3	5.3	4.0	4.0	2.7	2.7	2.7
82.5°	6.7	5.3	4.0	4.0	4.0	2.7	2.7	2.7	1.3	1.3	1.3
85°	2.7	2.7	1.3	1.3	1.3	1.3	1.3	1.3	0.0	0.0	0.0
87.5°	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	549.8	549.8	549.8	549.8	549.8	549.8	549.8	549.8	549.8	549.8	549.8
2.5°	545.8	544.5	543.1	541.8	541.8	541.8	539.1	539.1	537.8	536.4	536.4
5°	537.8	535.1	532.4	532.4	529.8	528.4	527.1	524.4	523.1	521.8	520.4
7.5°	524.4	521.8	517.8	516.4	515.1	512.4	508.4	507.1	503.1	501.8	500.4
10°	509.8	504.4	501.8	497.7	497.7	492.4	489.7	485.7	483.1	480.4	477.7
12.5°	491.1	484.4	479.1	477.7	475.1	469.7	467.1	461.7	459.0	456.4	453.7
15°	469.7	464.4	457.7	455.0	452.4	447.0	443.0	439.0	435.0	431.0	428.4
17.5°	445.7	440.4	432.4	429.7	428.4	421.7	416.3	411.0	407.0	404.3	400.3
20°	420.4	413.7	407.0	404.3	401.7	396.3	391.0	385.7	380.3	376.3	373.6
22.5°	392.3	384.3	379.0	376.3	373.6	367.0	363.0	357.6	353.6	349.6	347.0
25°	365.6	357.6	351.0	348.3	344.3	338.9	334.9	330.9	325.6	321.6	318.9
27.5°	334.9	326.9	321.6	320.3	316.3	312.3	306.9	301.6	298.9	294.9	292.2
30°	301.6	296.2	292.2	288.2	286.9	282.9	280.2	276.2	272.2	268.2	264.2
32.5°	266.9	262.9	257.5	257.5	256.2	253.5	250.9	248.2	245.5	242.9	238.9
35°	234.9	229.5	226.9	226.9	224.2	222.9	222.9	220.2	217.5	216.2	214.8
37.5°	202.8	200.2	196.2	196.2	194.8	194.8	193.5	192.2	192.2	192.2	190.8
40°	173.5	170.8	168.1	166.8	166.8	166.8	165.5	166.8	166.8	166.8	166.8
42.5°	146.8	145.5	142.8	142.8	142.8	142.8	142.8	142.8	142.8	144.1	144.1
45°	125.4	122.8	121.4	120.1	121.4	120.1	120.1	121.4	121.4	122.8	121.4
47.5°	104.1	104.1	101.4	101.4	101.4	101.4	101.4	101.4	101.4	101.4	102.8
50°	88.1	85.4	85.4	84.1	84.1	84.1	84.1	84.1	82.7	84.1	84.1
52.5°	73.4	70.7	70.7	69.4	69.4	68.1	68.1	66.7	66.7	66.7	66.7
55°	60.1	57.4	57.4	56.0	56.0	54.7	54.7	53.4	52.0	52.0	50.7
57.5°	48.0	45.4	45.4	44.0	44.0	42.7	41.4	40.0	38.7	38.7	37.4
60°	37.4	36.0	34.7	34.7	33.4	32.0	30.7	28.0	26.7	26.7	25.4
62.5°	29.4	28.0	26.7	25.4	25.4	22.7	21.4	18.7	17.3	16.0	17.3
65°	22.7	21.4	20.0	18.7	17.3	16.0	13.3	12.0	10.7	12.0	12.0
67.5°	16.0	14.7	13.3	13.3	12.0	10.7	8.0	8.0	8.0	8.0	9.3
70°	12.0	10.7	9.3	8.0	6.7	5.3	5.3	5.3	5.3	5.3	6.7
72.5°	8.0	6.7	5.3	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
75°	5.3	4.0	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
77.5°	4.0	2.7	1.3	1.3	1.3	1.3	1.3	2.7	2.7	1.3	2.7
80°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
82.5°	0.0	0.0	0.0	1.3	1.3	0.0	1.3	1.3	0.0	1.3	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	549.8	549.8	549.8	549.8	549.8	549.8	549.8	549.8
2.5°	536.4	535.1	535.1	533.8	533.8	535.1	533.8	532.4
5°	517.8	517.8	517.8	516.4	515.1	515.1	515.1	515.1
7.5°	497.7	496.4	496.4	496.4	495.1	492.4	492.4	492.4
10°	475.1	472.4	472.4	471.1	471.1	469.7	469.7	468.4
12.5°	451.0	448.4	447.0	445.7	444.4	443.0	444.4	443.0
15°	425.7	423.0	420.4	420.4	419.0	416.3	416.3	415.0
17.5°	397.7	393.7	393.7	392.3	389.7	389.7	388.3	387.0
20°	369.6	367.0	365.6	364.3	363.0	360.3	360.3	360.3
22.5°	341.6	338.9	337.6	337.6	336.3	333.6	333.6	332.3
25°	314.9	312.3	310.9	309.6	308.3	308.3	306.9	306.9
27.5°	289.6	285.6	285.6	282.9	281.6	280.2	280.2	280.2
30°	261.6	260.2	257.5	258.9	254.9	254.9	254.9	252.2
32.5°	236.2	234.9	233.5	233.5	230.9	229.5	230.9	229.5
35°	212.2	210.8	209.5	208.2	206.8	206.8	205.5	205.5
37.5°	189.5	186.8	185.5	185.5	184.2	184.2	182.8	182.8
40°	165.5	165.5	164.1	162.8	161.5	160.1	158.8	158.8
42.5°	144.1	142.8	141.5	141.5	140.1	137.4	137.4	137.4
45°	122.8	121.4	120.1	120.1	118.8	117.4	116.1	117.4
47.5°	101.4	101.4	101.4	100.1	98.7	97.4	96.1	96.1
50°	84.1	82.7	82.7	82.7	80.1	78.7	77.4	77.4
52.5°	66.7	65.4	65.4	65.4	64.1	61.4	60.1	60.1
55°	50.7	50.7	50.7	49.4	48.0	46.7	45.4	44.0
57.5°	36.0	36.0	36.0	36.0	36.0	36.0	34.7	34.7
60°	25.4	26.7	26.7	28.0	28.0	26.7	25.4	25.4
62.5°	18.7	20.0	20.0	20.0	20.0	18.7	18.7	18.7
65°	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3
67.5°	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
70°	6.7	6.7	6.7	6.7	6.7	6.7	5.3	6.7
72.5°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
75°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
77.5°	1.3	2.7	1.3	1.3	1.3	1.3	1.3	1.3
80°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
82.5°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	1.3
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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