

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO

Report Number: P130085

Luminaire Tested: **HL618TAT - HLM6935 - HL6NFL - 70PS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P130085
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33474)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL618TAT - HLM6935 - HL6NFL - 70PS
Description: HALO ALLSLOPE 6" 30W, Albalite Glass Lens, White Polymer Trim Ring
"Dead Front", Wet Location - Showerlight using 25 Degree Optic at a 6-12
Pitch
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1121.3 lumens
Efficiency: N/A
Efficacy: 40.6 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.04 / 1.23
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')
CIE Type: Direct

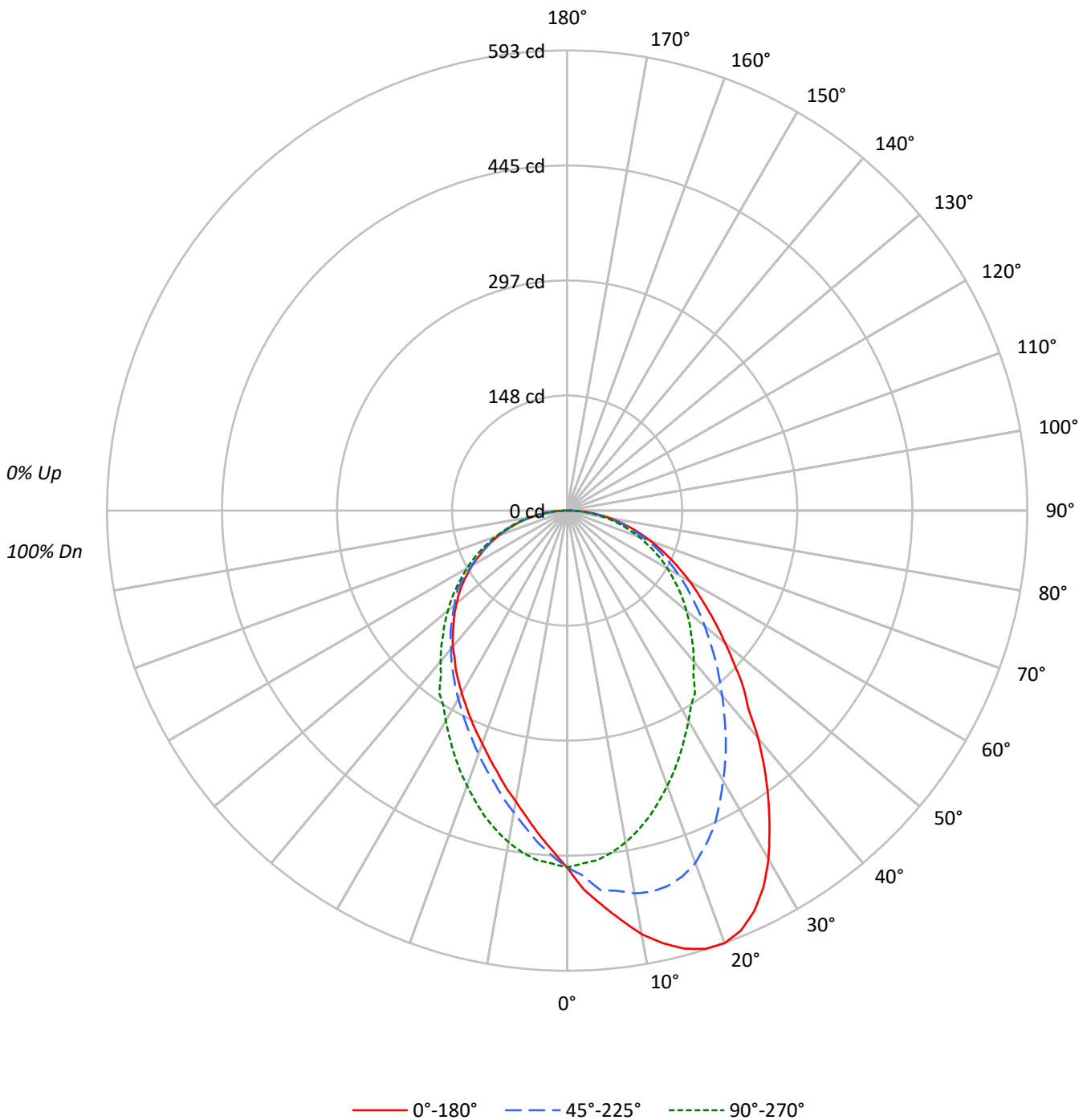
Input Watts (W): 27.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	104	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	84					84			
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	76	72	70					70			
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60					60			
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51					51			
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45					45			
6	71	58	49	43	69	57	49	43	55	48	42	53	47	42	52	46	41	39					39			
7	66	53	44	38	64	52	44	38	50	43	38	49	42	37	48	42	37	35					35			
8	62	48	40	34	60	48	40	34	46	39	34	45	38	34	44	38	33	31					31			
9	58	44	36	31	56	44	36	31	43	36	31	42	35	30	41	35	30	29					29			
10	54	41	33	28	53	41	33	28	40	33	28	39	32	28	38	32	28	26					26			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	27440	27440	27440
5°	29853	26462	24506
10°	32093	25134	22042
15°	33713	23566	20099
20°	34364	21853	18505
25°	33396	20223	17287
30°	30996	18692	16230
35°	27764	17645	15384
40°	24396	16171	14610
45°	21382	15073	13806
50°	18760	14134	13111
55°	16627	13187	12425
60°	14920	12198	11560
65°	13217	11120	10518
70°	11561	9886	9432
75°	9796	8372	7990
80°	7637	6568	6102
85°	4903	3970	3579



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.5	3.9
10°-20°	122.5	10.9
20°-30°	176.0	15.7
30°-40°	195.1	17.4
40°-50°	187.8	16.7
50°-60°	163.9	14.6
60°-70°	126.5	11.3
70°-80°	78.8	7.0
80°-90°	27.1	2.4
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°	342.1	30.5
0°-40°	537.2	47.9
0°-60°	888.9	79.3
0°-90°	1121.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1121.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	460	460	460	460	460	
5°	510	491	452	430	418	50
15°	584	501	408	363	348	165
25°	570	449	345	306	295	260
35°	452	356	287	256	250	282
45°	321	269	226	212	207	247
55°	220	197	175	170	165	198
65°	147	137	124	118	117	146
75°	85	80	72	70	69	89
85°	29	28	23	22	21	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7
2.5°	488.6	477.5	479.7	480.8	479.7	473.1	473.1	475.3	474.2	470.8	474.2
5°	509.8	498.7	500.9	499.8	498.7	492.0	489.8	490.9	489.8	490.9	486.4
7.5°	532.0	520.9	522.0	520.9	517.6	508.7	505.3	504.2	502.0	494.2	493.1
10°	554.3	539.8	539.8	539.8	535.4	523.1	518.7	515.4	510.9	500.9	497.5
12.5°	571.0	557.6	556.5	555.4	548.7	544.3	527.6	522.0	515.4	503.1	497.5
15°	584.4	569.9	569.9	565.4	557.6	541.0	533.2	524.3	515.4	500.9	493.1
17.5°	592.2	578.8	576.6	571.0	561.0	543.2	532.0	520.9	509.8	494.2	485.3
20°	593.3	579.9	587.7	569.9	557.6	537.6	524.3	512.0	499.8	483.1	470.8
22.5°	585.5	572.1	579.9	559.9	547.6	526.5	512.0	497.5	484.2	466.4	455.2
25°	569.9	557.6	552.1	544.3	530.9	509.8	494.2	478.6	465.3	448.6	436.3
27.5°	547.6	535.4	528.7	520.9	508.7	487.5	471.9	456.4	443.0	425.2	414.1
30°	518.7	506.4	500.9	494.2	482.0	460.8	446.3	431.9	419.6	401.8	392.9
32.5°	485.3	477.5	469.7	464.1	454.1	434.1	419.6	406.3	395.1	379.6	370.7
35°	451.9	444.1	427.4	431.9	421.9	405.2	389.6	379.6	369.5	356.2	347.3
37.5°	417.4	409.6	402.9	398.5	382.9	375.1	361.7	352.8	343.9	332.8	325.0
40°	382.9	376.2	370.7	367.3	360.6	346.2	336.1	328.4	319.5	310.5	303.9
42.5°	345.1	343.9	340.6	337.3	331.7	319.5	310.5	303.9	297.2	289.4	283.8
45°	320.6	315.0	311.7	308.3	303.9	292.7	287.2	281.6	276.0	269.4	263.8
47.5°	291.6	287.2	284.9	282.7	278.3	268.2	263.8	259.3	254.9	249.3	246.0
50°	266.0	262.7	259.3	257.1	254.9	247.1	243.8	244.9	236.0	231.5	229.3
52.5°	242.6	239.3	237.1	234.9	232.6	227.1	223.7	220.4	218.2	213.7	211.5
55°	220.4	217.0	214.8	213.7	215.9	207.0	204.8	202.6	200.4	197.0	197.0
57.5°	200.4	197.0	195.9	195.9	193.7	189.2	187.0	185.9	183.7	181.4	180.3
60°	182.5	179.2	177.0	178.1	175.9	171.4	174.8	168.1	168.1	165.8	164.7
62.5°	163.6	161.4	160.3	160.3	158.1	155.8	154.7	153.6	152.5	151.4	150.3
65°	146.9	144.7	143.6	143.6	142.5	139.1	138.0	138.0	136.9	136.9	135.8
67.5°	130.2	128.0	128.0	128.0	126.9	124.7	123.6	123.6	122.4	122.4	121.3
70°	114.6	112.4	111.3	112.4	111.3	110.2	108.0	108.0	108.0	108.0	106.9
72.5°	99.1	98.0	96.8	98.0	96.8	94.6	93.5	95.7	93.5	93.5	92.4
75°	84.6	83.5	82.4	83.5	81.3	81.3	80.1	80.1	79.0	80.1	79.0
77.5°	70.1	69.0	69.0	69.0	67.9	66.8	65.7	66.8	65.7	65.7	65.7
80°	55.7	54.5	54.5	55.7	54.5	53.4	52.3	53.4	52.3	52.3	52.3
82.5°	42.3	41.2	41.2	42.3	41.2	40.1	39.0	40.1	40.1	39.0	40.1
85°	28.9	28.9	28.9	28.9	28.9	26.7	26.7	26.7	26.7	27.8	27.8
87.5°	16.7	16.7	16.7	16.7	16.7	15.6	14.5	15.6	15.6	15.6	15.6
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7
2.5°	477.5	469.7	468.6	464.1	461.9	464.1	464.1	455.2	459.7	453.0	455.2
5°	487.5	476.4	474.2	467.5	463.0	463.0	461.9	451.9	454.1	445.2	445.2
7.5°	493.1	482.0	475.3	467.5	460.8	460.8	455.2	444.1	445.2	435.2	434.1
10°	494.2	480.8	473.1	464.1	455.2	451.9	447.5	434.1	433.0	423.0	421.9
12.5°	493.1	476.4	467.5	456.4	447.5	441.9	435.2	421.9	420.7	409.6	406.3
15°	486.4	468.6	458.6	445.2	434.1	428.5	421.9	408.5	406.3	394.0	391.8
17.5°	476.4	456.4	446.3	433.0	420.7	414.1	407.4	392.9	390.7	388.5	376.2
20°	460.8	441.9	429.6	416.3	405.2	397.4	390.7	377.3	374.0	362.9	360.6
22.5°	444.1	426.3	414.1	400.7	389.6	379.6	374.0	361.7	358.4	347.3	345.1
25°	425.2	407.4	395.1	381.8	371.8	364.0	357.3	345.1	342.8	331.7	329.5
27.5°	404.0	387.3	376.2	364.0	354.0	347.3	340.6	328.4	327.2	317.2	315.0
30°	384.0	367.3	358.4	345.1	335.0	330.6	323.9	312.8	311.7	302.8	300.5
32.5°	361.7	347.3	337.3	327.2	318.3	313.9	308.3	297.2	296.1	288.3	286.1
35°	339.5	326.1	318.3	309.4	300.5	297.2	292.7	287.2	280.5	273.8	272.7
37.5°	319.5	307.2	300.5	291.6	283.8	280.5	276.0	267.1	266.0	260.5	260.5
40°	299.4	288.3	282.7	274.9	268.2	264.9	261.6	253.8	252.7	247.1	247.1
42.5°	279.4	270.5	264.9	263.8	252.7	249.3	247.1	240.4	239.3	233.7	234.9
45°	261.6	252.7	248.2	243.8	237.1	234.9	232.6	226.0	227.1	221.5	222.6
47.5°	243.8	236.0	232.6	228.2	222.6	220.4	219.3	213.7	213.7	208.1	209.3
50°	227.1	220.4	217.0	212.6	208.1	208.1	205.9	200.4	201.5	197.0	197.0
52.5°	211.5	204.8	202.6	198.1	194.8	194.8	193.7	188.1	188.1	184.8	184.8
55°	195.9	190.3	188.1	184.8	181.4	180.3	179.2	174.8	175.9	172.5	172.5
57.5°	179.2	174.8	173.6	170.3	168.1	167.0	165.8	161.4	162.5	160.3	160.3
60°	163.6	160.3	159.2	156.9	153.6	153.6	152.5	149.2	150.3	146.9	148.0
62.5°	149.2	143.6	144.7	145.8	141.4	141.4	140.2	136.9	136.9	134.7	135.8
65°	134.7	130.2	131.3	130.2	128.0	128.0	126.9	123.6	124.7	122.4	122.4
67.5°	120.2	119.1	118.0	116.9	116.9	114.6	113.5	110.2	111.3	109.1	110.2
70°	106.9	104.6	104.6	102.4	100.2	101.3	100.2	98.0	99.1	96.8	98.0
72.5°	93.5	91.3	91.3	89.0	87.9	87.9	86.8	84.6	85.7	84.6	84.6
75°	80.1	77.9	76.8	76.8	75.7	74.6	74.6	72.3	73.5	71.2	72.3
77.5°	65.7	64.6	64.6	63.4	62.3	62.3	61.2	60.1	60.1	59.0	59.0
80°	52.3	52.3	51.2	50.1	50.1	50.1	49.0	47.9	47.9	46.7	46.7
82.5°	40.1	39.0	39.0	39.0	37.8	36.7	36.7	35.6	35.6	35.6	34.5
85°	27.8	26.7	26.7	25.6	25.6	25.6	24.5	23.4	23.4	23.4	23.4
87.5°	15.6	14.5	14.5	14.5	13.4	14.5	13.4	12.2	12.2	12.2	12.2
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7	459.7
2.5°	453.0	454.1	451.9	448.6	448.6	445.2	447.5	445.2	446.3	441.9	439.7
5°	443.0	443.0	438.5	434.1	433.0	429.6	429.6	427.4	427.4	423.0	419.6
7.5°	429.6	429.6	424.1	419.6	417.4	411.8	411.8	409.6	409.6	404.0	401.8
10°	416.3	415.2	407.4	404.0	400.7	395.1	395.1	392.9	391.8	386.2	385.1
12.5°	401.8	399.6	392.9	387.3	384.0	379.6	378.4	375.1	375.1	369.5	367.3
15°	386.2	384.0	377.3	371.8	368.4	362.9	361.7	359.5	358.4	352.8	351.7
17.5°	370.7	367.3	361.7	356.2	352.8	348.4	347.3	343.9	342.8	338.4	337.3
20°	355.1	352.8	346.2	340.6	338.4	333.9	331.7	328.4	328.4	323.9	321.7
22.5°	340.6	337.3	330.6	327.2	323.9	319.5	318.3	316.1	315.0	310.5	309.4
25°	326.1	322.8	317.2	312.8	316.1	306.1	303.9	302.8	301.6	297.2	296.1
27.5°	311.7	309.4	302.8	299.4	296.1	292.7	291.6	289.4	289.4	286.1	284.9
30°	296.1	296.1	289.4	287.2	283.8	280.5	280.5	277.2	277.2	273.8	272.7
32.5°	283.8	282.7	277.2	273.8	271.6	268.2	268.2	266.0	266.0	262.7	261.6
35°	270.5	269.4	263.8	261.6	259.3	256.0	257.1	254.9	253.8	251.6	251.6
37.5°	258.2	257.1	251.6	249.3	247.1	244.9	244.9	243.8	242.6	239.3	239.3
40°	244.9	247.1	239.3	238.2	234.9	232.6	233.7	231.5	231.5	229.3	229.3
42.5°	231.5	231.5	228.2	226.0	223.7	222.6	222.6	220.4	220.4	218.2	218.2
45°	220.4	220.4	215.9	219.3	212.6	211.5	211.5	209.3	209.3	207.0	207.0
47.5°	208.1	208.1	204.8	202.6	201.5	200.4	200.4	198.1	198.1	195.9	195.9
50°	197.0	197.0	193.7	191.4	190.3	189.2	189.2	187.0	187.0	184.8	185.9
52.5°	184.8	183.7	181.4	180.3	179.2	181.4	178.1	177.0	175.9	174.8	174.8
55°	171.4	172.5	170.3	169.2	167.0	170.3	165.8	165.8	164.7	162.5	163.6
57.5°	162.5	160.3	158.1	156.9	155.8	154.7	154.7	153.6	153.6	151.4	152.5
60°	146.9	148.0	145.8	144.7	143.6	142.5	142.5	141.4	141.4	140.2	140.2
62.5°	134.7	135.8	133.6	132.5	131.3	130.2	130.2	129.1	129.1	128.0	128.0
65°	122.4	122.4	121.3	120.2	119.1	118.0	118.0	118.0	116.9	116.9	116.9
67.5°	110.2	110.2	109.1	108.0	106.9	106.9	105.7	104.6	104.6	104.6	104.6
70°	96.8	96.8	96.8	95.7	94.6	94.6	93.5	92.4	92.4	92.4	92.4
72.5°	84.6	84.6	84.6	83.5	82.4	82.4	81.3	80.1	80.1	80.1	80.1
75°	72.3	72.3	71.2	71.2	70.1	70.1	69.0	67.9	67.9	67.9	67.9
77.5°	60.1	60.1	60.1	59.0	57.9	57.9	56.8	55.7	55.7	56.8	55.7
80°	46.7	47.9	47.9	46.7	45.6	45.6	44.5	44.5	43.4	44.5	44.5
82.5°	35.6	35.6	35.6	34.5	34.5	33.4	34.5	32.3	32.3	32.3	32.3
85°	24.5	24.5	24.5	23.4	22.3	22.3	22.3	21.1	20.0	21.1	21.1
87.5°	13.4	12.2	12.2	12.2	12.2	11.1	11.1	11.1	10.0	11.1	11.1
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):

	165°	170°	175°	180°
0°	459.7	459.7	459.7	459.7
2.5°	443.0	443.0	445.2	438.5
5°	421.9	423.0	425.2	418.5
7.5°	402.9	404.0	405.2	398.5
10°	384.0	386.2	387.3	380.7
12.5°	365.1	368.4	370.7	365.1
15°	351.7	351.7	354.0	348.4
17.5°	336.1	337.3	338.4	333.9
20°	321.7	322.8	323.9	319.5
22.5°	308.3	310.5	310.5	307.2
25°	296.1	297.2	298.3	295.0
27.5°	283.8	284.9	286.1	282.7
30°	272.7	276.0	273.8	271.6
32.5°	261.6	262.7	262.7	260.5
35°	256.0	250.4	252.7	250.4
37.5°	238.2	239.3	240.4	238.2
40°	228.2	229.3	229.3	229.3
42.5°	218.2	217.0	219.3	218.2
45°	211.5	207.0	208.1	207.0
47.5°	195.9	195.9	197.0	197.0
50°	184.8	185.9	185.9	185.9
52.5°	173.6	174.8	175.9	175.9
55°	163.6	163.6	164.7	164.7
57.5°	151.4	151.4	152.5	152.5
60°	140.2	140.2	141.4	141.4
62.5°	128.0	128.0	129.1	129.1
65°	115.8	115.8	116.9	116.9
67.5°	104.6	104.6	104.6	105.7
70°	92.4	92.4	92.4	93.5
72.5°	80.1	80.1	81.3	81.3
75°	67.9	67.9	69.0	69.0
77.5°	55.7	55.7	56.8	57.9
80°	44.5	44.5	44.5	44.5
82.5°	32.3	32.3	33.4	34.5
85°	21.1	21.1	21.1	21.1
87.5°	11.1	11.1	11.1	12.2
90°	0.0	0.0	0.0	0.0

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