

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: P130046

Luminaire Tested: **HL618TAT - HLM6940 - HL6FL - 70PS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P130046  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33455)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: HL618TAT - HLM6940 - HL6FL - 70PS  
Description: HALO ALLSLOPE 6" 30W, Albalite Glass Lens, White Polymer Trim Ring  
"Dead Front", Wet Location - Showerlight using 40 Degree Optic at a 6-12  
Pitch  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

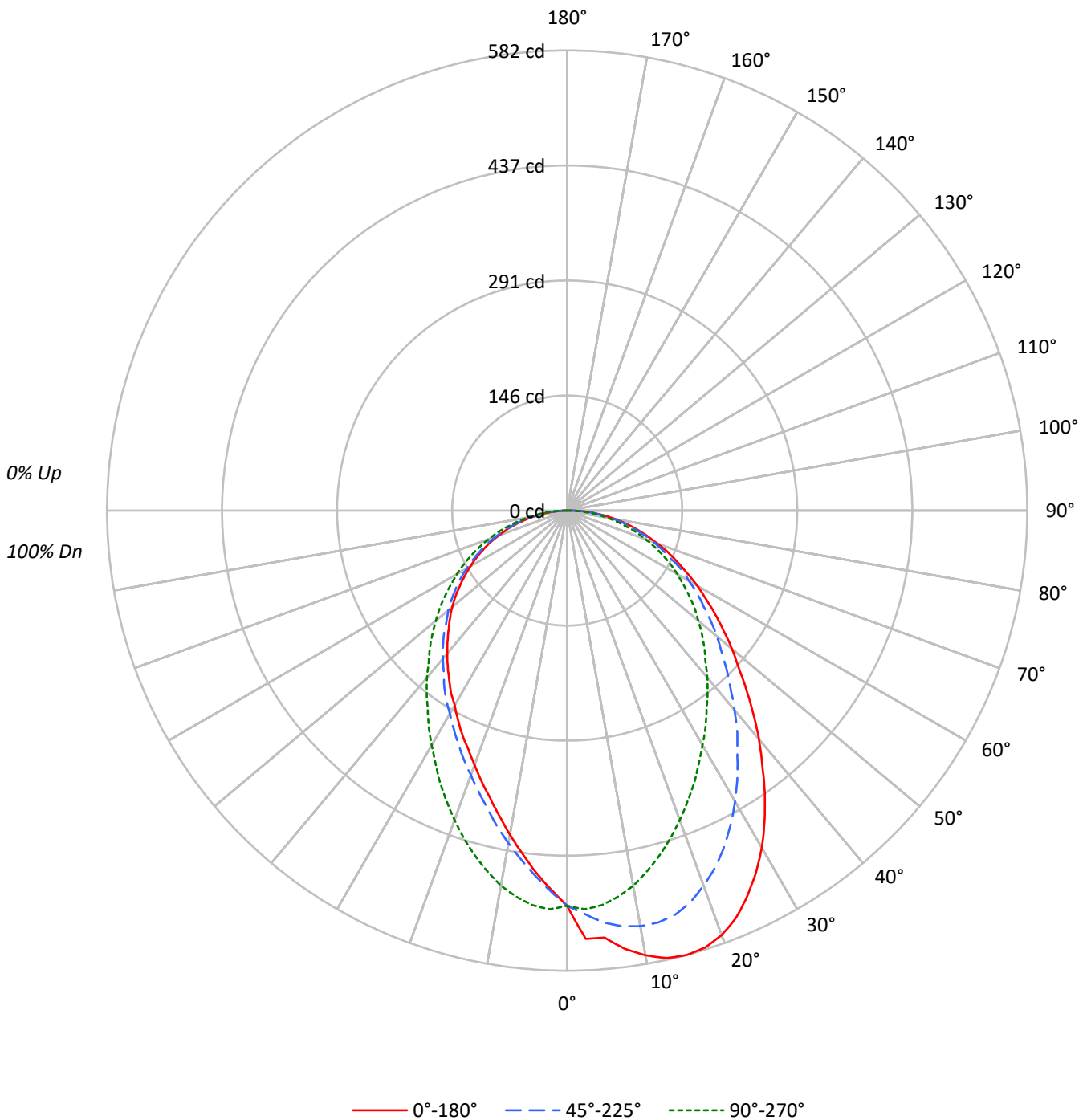
Lumens per Lamp: N/A  
Luminaire Lumens: 1175.7 lumens  
Efficiency: N/A  
Efficacy: 42.6 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.05 / 1.21  
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')  
CIE Type: Direct  
  
Input Watts (W): 27.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	84
2	99	91	84	78	96	89	83	78	85	80	76	82	78	74	79	76	72	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	53	51
5	77	64	55	49	75	63	55	48	61	54	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	49	43	55	48	42	54	47	42	52	46	42	40
7	66	53	44	38	64	52	44	38	50	43	38	49	42	37	48	42	37	35
8	62	48	40	34	60	48	40	34	46	39	34	45	39	34	44	38	34	32
9	58	45	36	31	56	44	36	31	43	36	31	42	35	31	41	35	30	29
10	54	41	33	28	53	41	33	28	40	33	28	39	32	28	38	32	28	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	29833	29833	29833
5°	31750	29337	26860
10°	33072	27890	24103
15°	33581	26041	21714
20°	33084	24112	19838
25°	31556	22268	18365
30°	29436	20467	16995
35°	26768	18886	15986
40°	24059	17579	15037
45°	21389	16387	14126
50°	19205	15276	13400
55°	17253	14243	12508
60°	15533	13162	11576
65°	13829	11975	10563
70°	12206	10622	9281
75°	10514	8974	7712
80°	8460	6965	5814
85°	5751	4309	3087



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.0	4.0
10°-20°	130.0	11.1
20°-30°	183.9	15.6
30°-40°	203.5	17.3
40°-50°	196.4	16.7
50°-60°	171.6	14.6
60°-70°	132.3	11.3
70°-80°	82.5	7.0
80°-90°	28.4	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°	360.9	30.7
0°-40°	564.4	48.0
0°-60°	932.4	79.3
0°-90°	1175.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1175.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	500	500	500	500	500	
5°	542	523	501	464	459	53
15°	582	529	451	390	376	164
25°	538	470	380	326	313	247
35°	436	375	307	271	260	272
45°	321	286	246	220	212	248
55°	229	211	189	172	166	205
65°	154	145	133	121	117	153
75°	91	87	78	70	67	96
85°	34	32	25	21	18	36
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°	499.8	499.8	499.8	499.8	499.8	499.8	499.8	499.8	499.8	499.8	499.8
2.5°	542.2	516.8	525.2	515.5	514.3	508.3	514.3	518.0	508.3	510.7	511.9
5°	542.2	537.3	543.4	533.7	532.5	537.3	531.3	532.5	520.4	522.8	521.6
7.5°	559.1	553.1	560.3	549.4	548.2	550.6	543.4	544.6	530.1	530.1	528.9
10°	571.2	566.4	572.4	560.3	557.9	560.3	551.9	551.9	534.9	533.7	530.1
12.5°	579.7	574.8	579.7	567.6	565.2	566.4	555.5	553.1	536.1	533.7	527.6
15°	582.1	577.3	583.3	568.8	566.4	565.2	554.3	551.9	532.5	528.9	521.6
17.5°	579.7	574.8	579.7	565.2	561.5	559.1	548.2	544.6	525.2	519.2	510.7
20°	571.2	564.0	571.2	556.7	551.9	549.4	536.1	532.5	511.9	504.7	496.2
22.5°	557.9	553.1	557.9	542.2	538.5	534.9	521.6	516.8	496.2	488.9	478.0
25°	538.5	536.1	532.5	524.0	519.2	516.8	503.4	497.4	476.8	469.6	458.7
27.5°	516.8	514.3	516.8	501.0	497.4	492.6	481.7	475.6	455.0	447.8	435.7
30°	492.6	487.7	491.3	476.8	474.4	467.1	456.2	451.4	430.8	424.8	412.7
32.5°	464.7	462.3	464.7	450.2	446.6	441.7	430.8	426.0	406.6	400.6	390.9
35°	435.7	430.8	434.5	421.1	418.7	412.7	403.0	398.2	381.2	375.2	366.7
37.5°	405.4	401.8	405.4	393.3	390.9	384.8	377.6	371.5	355.8	353.4	343.7
40°	377.6	374.0	376.4	366.7	363.1	359.4	352.2	346.1	332.8	329.2	314.7
42.5°	348.5	346.1	348.5	337.6	335.2	331.6	325.5	321.9	309.8	306.2	298.9
45°	320.7	319.5	321.9	313.4	309.8	307.4	301.3	298.9	286.8	285.6	279.6
47.5°	294.1	300.1	295.3	288.0	285.6	282.0	278.3	277.1	266.2	265.0	259.0
50°	272.3	269.9	269.9	263.8	263.8	260.2	257.8	255.4	246.9	246.9	240.8
52.5°	249.3	248.1	248.1	243.3	242.0	240.8	237.2	236.0	227.5	228.7	223.9
55°	228.7	232.4	227.5	222.7	222.7	220.3	219.0	217.8	210.6	210.6	205.7
57.5°	208.2	206.9	208.2	203.3	203.3	200.9	199.7	199.7	192.4	194.8	190.0
60°	190.0	187.6	188.8	185.2	184.0	184.0	185.2	182.7	176.7	177.9	174.3
62.5°	170.6	169.4	171.8	167.0	167.0	167.0	165.8	165.8	159.7	164.6	158.5
65°	153.7	152.5	154.9	151.3	151.3	150.1	148.9	148.9	145.2	145.2	144.0
67.5°	138.0	136.8	139.2	135.5	135.5	134.3	134.3	133.1	129.5	130.7	128.3
70°	121.0	121.0	122.2	119.8	119.8	118.6	118.6	117.4	115.0	116.2	113.8
72.5°	105.3	105.3	106.5	104.1	104.1	102.9	102.9	102.9	100.4	101.7	99.2
75°	90.8	90.8	90.8	89.6	89.6	88.3	88.3	88.3	85.9	87.1	85.9
77.5°	76.2	76.2	76.2	75.0	75.0	73.8	73.8	73.8	71.4	72.6	71.4
80°	61.7	61.7	61.7	60.5	60.5	59.3	59.3	59.3	58.1	59.3	58.1
82.5°	47.2	47.2	48.4	47.2	47.2	46.0	46.0	46.0	44.8	44.8	44.8
85°	33.9	33.9	35.1	33.9	32.7	32.7	32.7	31.5	31.5	31.5	31.5
87.5°	21.8	21.8	21.8	21.8	20.6	20.6	19.4	19.4	19.4	19.4	19.4
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°	499.8	499.8	499.8	499.8	499.8	499.8	499.8	499.8	499.8	499.8	499.8
2.5°	513.1	507.1	508.3	503.4	504.7	502.2	501.0	504.7	493.8	502.2	496.2
5°	521.6	513.1	513.1	505.9	505.9	501.0	497.4	501.0	486.5	493.8	486.5
7.5°	525.2	515.5	513.1	504.7	503.4	496.2	491.3	492.6	478.0	482.9	473.2
10°	526.4	514.3	510.7	499.8	496.2	488.9	480.4	481.7	464.7	469.6	458.7
12.5°	521.6	508.3	503.4	491.3	485.3	476.8	467.1	467.1	449.0	453.8	442.9
15°	514.3	499.8	492.6	479.2	473.2	463.5	452.6	451.4	434.5	435.7	424.8
17.5°	502.2	486.5	476.8	463.5	457.5	446.6	435.7	434.5	417.5	418.7	407.8
20°	486.5	469.6	461.1	447.8	446.6	429.6	418.7	416.3	398.2	400.6	389.7
22.5°	469.6	452.6	442.9	428.4	421.1	410.3	399.4	398.2	381.2	381.2	371.5
25°	447.8	432.0	423.6	409.0	401.8	392.1	380.0	380.0	363.1	363.1	354.6
27.5°	427.2	411.5	401.8	388.5	382.4	380.0	361.8	360.6	344.9	346.1	337.6
30°	404.2	393.3	381.2	367.9	361.8	353.4	343.7	342.5	328.0	323.1	320.7
32.5°	382.4	367.9	360.6	348.5	342.5	334.0	325.5	325.5	311.0	313.4	305.0
35°	359.4	353.4	338.9	328.0	323.1	317.1	307.4	307.4	295.3	296.5	290.4
37.5°	336.4	324.3	324.3	309.8	300.1	298.9	291.7	291.7	279.6	282.0	275.9
40°	315.9	305.0	298.9	291.7	286.8	282.0	275.9	275.9	265.0	267.5	261.4
42.5°	295.3	284.4	280.8	273.5	269.9	265.0	259.0	259.0	250.5	251.7	246.9
45°	275.9	266.2	263.8	260.2	252.9	250.5	244.5	245.7	236.0	237.2	233.6
47.5°	256.6	248.1	245.7	239.6	237.2	233.6	228.7	231.1	221.5	222.7	220.3
50°	239.6	231.1	229.9	223.9	222.7	220.3	215.4	216.6	209.4	210.6	208.2
52.5°	222.7	215.4	214.2	209.4	208.2	204.5	200.9	203.3	196.1	197.3	193.6
55°	205.7	199.7	198.5	193.6	193.6	191.2	186.4	188.8	181.5	184.0	180.3
57.5°	188.8	185.2	182.7	179.1	179.1	176.7	173.1	174.3	169.4	169.4	168.2
60°	174.3	168.2	169.4	164.6	164.6	163.4	158.5	161.0	154.9	156.1	154.9
62.5°	158.5	153.7	153.7	151.3	150.1	148.9	145.2	147.6	141.6	142.8	140.4
65°	144.0	140.4	139.2	136.8	135.5	134.3	131.9	133.1	128.3	129.5	128.3
67.5°	128.3	125.9	124.7	122.2	122.2	121.0	117.4	119.8	115.0	116.2	115.0
70°	113.8	111.3	111.3	107.7	107.7	106.5	104.1	105.3	101.7	101.7	101.7
72.5°	100.4	96.8	95.6	94.4	94.4	93.2	90.8	92.0	88.3	88.3	87.1
75°	85.9	83.5	83.5	81.1	79.9	79.9	77.5	77.5	75.0	75.0	73.8
77.5°	71.4	69.0	69.0	66.6	66.6	66.6	64.1	64.1	61.7	61.7	61.7
80°	58.1	55.7	55.7	53.2	53.2	53.2	50.8	50.8	48.4	48.4	48.4
82.5°	44.8	42.4	42.4	41.1	39.9	39.9	38.7	37.5	36.3	36.3	36.3
85°	31.5	30.3	30.3	29.0	27.8	27.8	25.4	25.4	24.2	24.2	24.2
87.5°	18.2	18.2	16.9	16.9	16.9	15.7	14.5	13.3	12.1	12.1	13.3
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	499.8	499.8	499.8	499.8	499.8	499.8	499.8	499.8	499.8	499.8	499.8
2.5°	491.3	490.1	491.3	495.0	491.3	481.7	491.3	485.3	480.4	482.9	478.0
5°	479.2	478.0	476.8	479.2	473.2	463.5	473.2	467.1	459.9	459.9	457.5
7.5°	465.9	463.5	461.1	462.3	456.2	445.4	452.6	447.8	441.7	442.9	436.9
10°	451.4	446.6	444.1	444.1	436.9	427.2	433.3	428.4	421.1	422.4	416.3
12.5°	434.5	429.6	427.2	426.0	418.7	409.0	415.1	409.0	403.0	403.0	396.9
15°	412.7	411.5	409.0	407.8	400.6	389.7	396.9	389.7	383.6	384.8	378.8
17.5°	399.4	393.3	389.7	388.5	382.4	372.7	378.8	372.7	366.7	366.7	360.6
20°	382.4	376.4	371.5	371.5	364.3	355.8	361.8	357.0	348.5	351.0	344.9
22.5°	364.3	358.2	355.8	354.6	347.3	341.3	346.1	341.3	334.0	334.0	329.2
25°	347.3	342.5	340.1	338.9	331.6	325.5	330.4	326.8	319.5	320.7	314.7
27.5°	331.6	325.5	323.1	323.1	317.1	311.0	315.9	311.0	305.0	306.2	300.1
30°	314.7	309.8	308.6	308.6	301.3	296.5	300.1	296.5	290.4	291.7	286.8
32.5°	300.1	296.5	294.1	294.1	288.0	284.4	288.0	284.4	279.6	279.6	274.7
35°	285.6	280.8	279.6	284.4	274.7	271.1	273.5	271.1	266.2	266.2	261.4
37.5°	271.1	267.5	266.2	267.5	260.2	256.6	261.4	259.0	254.1	254.1	246.9
40°	256.6	254.1	252.9	252.9	248.1	244.5	249.3	245.7	242.0	242.0	237.2
42.5°	243.3	239.6	239.6	240.8	234.8	232.4	236.0	233.6	228.7	228.7	225.1
45°	231.1	227.5	226.3	227.5	228.7	220.3	223.9	222.7	213.0	217.8	214.2
47.5°	217.8	214.2	214.2	214.2	210.6	206.9	210.6	209.4	204.5	205.7	202.1
50°	205.7	202.1	200.9	202.1	197.3	196.1	199.7	197.3	190.0	193.6	191.2
52.5°	191.2	188.8	188.8	190.0	186.4	184.0	187.6	185.2	181.5	181.5	179.1
55°	179.1	176.7	176.7	177.9	174.3	171.8	174.3	173.1	169.4	169.4	167.0
57.5°	165.8	163.4	164.6	164.6	161.0	159.7	162.2	159.7	157.3	157.3	154.9
60°	152.5	150.1	151.3	151.3	148.9	146.4	148.9	147.6	144.0	144.0	142.8
62.5°	139.2	138.0	138.0	138.0	135.5	134.3	135.5	134.3	131.9	131.9	129.5
65°	127.1	124.7	124.7	124.7	122.2	121.0	122.2	121.0	119.8	118.6	117.4
67.5°	113.8	112.5	111.3	111.3	108.9	108.9	108.9	107.7	106.5	105.3	104.1
70°	100.4	98.0	98.0	98.0	96.8	95.6	95.6	94.4	94.4	93.2	92.0
72.5°	87.1	84.7	85.9	84.7	83.5	82.3	82.3	82.3	81.1	79.9	79.9
75°	73.8	72.6	72.6	72.6	70.2	70.2	70.2	69.0	67.8	67.8	66.6
77.5°	60.5	59.3	61.7	59.3	58.1	56.9	56.9	56.9	54.5	54.5	54.5
80°	48.4	46.0	47.2	47.2	44.8	44.8	43.6	43.6	42.4	42.4	42.4
82.5°	35.1	35.1	35.1	33.9	32.7	32.7	32.7	31.5	30.3	30.3	30.3
85°	23.0	23.0	21.8	21.8	21.8	20.6	20.6	19.4	18.2	18.2	18.2
87.5°	10.9	10.9	10.9	10.9	9.7	9.7	9.7	8.5	8.5	7.3	8.5
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°	499.8	499.8	499.8	499.8
2.5°	476.8	480.4	481.7	479.2
5°	456.2	459.9	459.9	458.7
7.5°	434.5	440.5	439.3	436.9
10°	413.9	419.9	418.7	416.3
12.5°	394.5	399.4	398.2	395.7
15°	375.2	381.2	380.0	376.4
17.5°	358.2	363.1	363.1	359.4
20°	342.5	347.3	346.1	342.5
22.5°	328.0	331.6	330.4	326.8
25°	313.4	324.3	315.9	313.4
27.5°	298.9	303.8	302.6	298.9
30°	285.6	289.2	288.0	284.4
32.5°	273.5	278.3	275.9	273.5
35°	260.2	265.0	262.6	260.2
37.5°	249.3	252.9	250.5	248.1
40°	236.0	240.8	239.6	236.0
42.5°	225.1	228.7	227.5	223.9
45°	214.2	217.8	216.6	211.8
47.5°	202.1	205.7	203.3	200.9
50°	190.0	193.6	192.4	190.0
52.5°	179.1	182.7	180.3	177.9
55°	167.0	170.6	168.2	165.8
57.5°	154.9	158.5	156.1	153.7
60°	141.6	145.2	142.8	141.6
62.5°	129.5	133.1	130.7	129.5
65°	117.4	119.8	118.6	117.4
67.5°	105.3	107.7	105.3	105.3
70°	92.0	94.4	93.2	92.0
72.5°	78.7	81.1	81.1	79.9
75°	66.6	67.8	67.8	66.6
77.5°	54.5	55.7	54.5	54.5
80°	42.4	42.4	42.4	42.4
82.5°	30.3	31.5	30.3	30.3
85°	18.2	19.4	18.2	18.2
87.5°	7.3	8.5	7.3	8.5
90°	0.0	0.0	0.0	0.0

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