

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: P130079

Luminaire Tested: **HL618TAT - HLM6927 - HL6NFL - 456P**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P130079
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33472)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL618TAT - HLM6927 - HL6NFL - 456P
Description: HALO ALLSLOPE 6" 30W, Black Coilex Baffle, White Metal Trim Ring using 25 Degree Optic at a 6-12 Pitch
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1801.0 lumens
Efficiency: N/A
Efficacy: 65.3 lumens/watt
Spacing Criteria (0/90/45): 1.94 / 0.71 / 1.18
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')
CIE Type: Direct

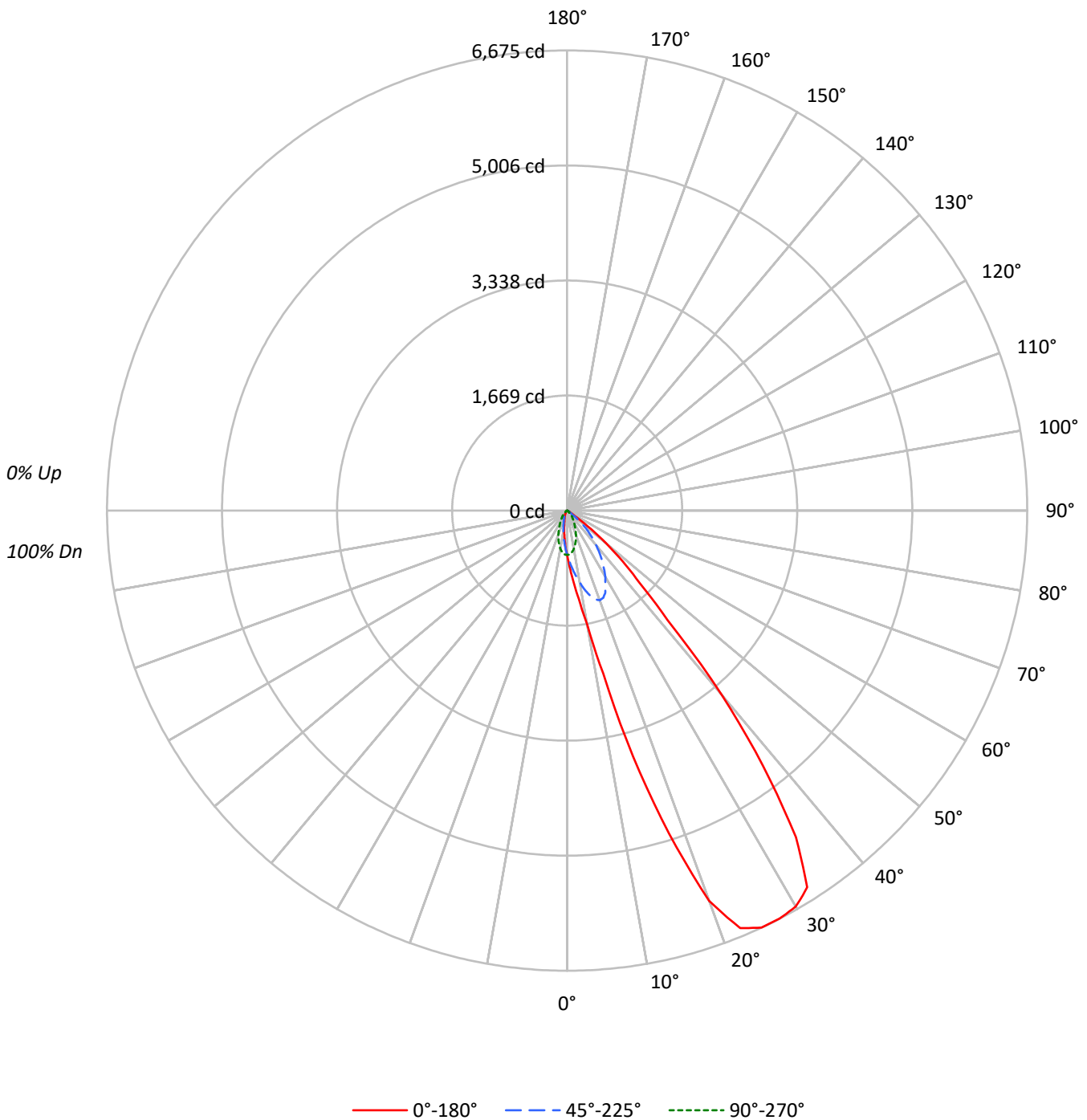
Input Watts (W): 27.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	113	109	107	104	110	107	105	102	103	101	99	99	98	96	96	95	94	92
2	106	100	96	92	104	99	94	91	95	92	89	92	89	87	89	87	85	83
3	99	92	86	82	97	91	85	81	88	83	80	85	81	78	83	80	77	75
4	93	84	78	73	91	83	77	73	81	76	72	79	74	71	77	73	70	68
5	87	77	71	66	85	76	70	65	75	69	65	73	68	64	71	67	64	62
6	82	71	64	59	80	70	64	59	69	63	59	67	62	58	66	61	58	56
7	77	66	59	54	75	65	58	54	64	58	53	62	57	53	61	56	53	51
8	72	61	54	49	71	60	54	49	59	53	49	58	52	48	57	52	48	47
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43
10	64	52	46	41	62	52	45	41	51	45	41	50	45	41	49	44	41	39

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	38196	38196	38196
5°	59723	36534	23891
10°	97548	32475	14301
15°	213080	27166	8769
20°	348984	21488	5908
25°	391169	16115	4336
30°	396382	11832	3406
35°	355375	8663	2580
40°	222275	6308	1848
45°	98960	3935	1000
50°	51902	2468	423
55°	10109	1584	75
60°	3679	981	82
65°	2159	450	180
70°	1110	202	202
75°	232	232	116
80°	0	274	0
85°	0	339	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.1	3.6
10°-20°	273.2	15.2
20°-30°	586.3	32.6
30°-40°	564.2	31.3
40°-50°	250.2	13.9
50°-60°	49.6	2.8
60°-70°	9.8	0.5
70°-80°	2.3	0.1
80°-90°	1.2	0.1
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°	923.6	51.3
0°-40°	1487.8	82.6
0°-60°	1787.7	99.3
0°-90°	1801.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1801.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	640	640	640	640	640	
5°	1020	840	624	459	408	117
15°	3694	1275	471	201	152	1121
25°	6675	1311	275	97	74	3042
35°	5784	880	141	57	42	3413
45°	1484	443	59	23	15	1298
55°	134	48	21	6	1	209
65°	24	17	5	2	2	25
75°	2	2	2	2	1	4
85°	0	2	2	1	0	0
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°	639.9	639.9	639.9	639.9	639.9	639.9	639.9	639.9	639.9	639.9	639.9
2.5°	817.9	782.9	760.9	775.9	763.9	765.9	749.9	752.9	751.9	732.9	725.9
5°	1019.9	938.9	944.9	955.9	927.9	925.9	900.9	887.9	873.9	839.9	820.9
7.5°	1291.9	1221.9	1188.9	1178.9	1133.9	1113.9	1076.9	1037.9	998.9	949.9	911.9
10°	1684.8	1606.8	1542.8	1511.8	1424.8	1374.8	1296.9	1219.9	1144.9	1061.9	996.9
12.5°	2420.7	2221.7	2098.8	2003.8	1832.8	1705.8	1560.8	1422.8	1309.9	1176.9	1072.9
15°	3693.6	3411.6	3127.6	2883.7	2492.7	2168.8	1890.8	1641.8	1461.8	1274.9	1130.9
17.5°	4912.4	4642.5	4355.5	4047.5	3480.6	2846.7	2271.7	1880.8	1592.8	1348.8	1164.9
20°	6025.3	5676.4	5331.4	4969.4	4291.5	3577.6	2711.7	2078.8	1683.8	1384.8	1166.9
22.5°	6555.3	6318.3	6018.3	5645.4	4852.4	4011.5	3005.7	2187.8	1711.8	1369.8	1133.9
25°	6675.2	6509.3	6282.3	5971.3	5124.4	4189.5	3073.7	2158.8	1663.8	1310.9	1070.9
27.5°	6672.2	6511.3	6314.3	6006.3	5104.4	4098.5	2890.7	2011.8	1548.8	1195.9	992.9
30°	6633.2	6476.3	6215.3	5802.3	4818.5	3746.6	2541.7	1805.8	1400.8	1108.9	908.9
32.5°	6480.3	6287.3	5878.3	5293.4	4265.5	3151.6	2133.8	1574.8	1246.9	989.9	819.9
35°	5784.3	5682.4	5105.4	4484.5	3437.6	2421.7	1742.8	1342.8	1082.9	879.9	723.9
37.5°	4668.5	4598.5	4092.5	3455.6	2511.7	1881.8	1424.8	1154.9	938.9	768.9	626.9
40°	3488.6	3373.6	2900.7	2384.7	1823.8	1464.8	1165.9	964.9	803.9	650.9	531.9
42.5°	2154.8	2161.8	1877.8	1677.8	1370.8	1147.9	949.9	798.9	671.9	541.9	437.0
45°	1483.8	1476.8	1362.8	1242.9	1057.9	936.9	773.9	656.9	555.9	442.9	354.0
47.5°	1092.9	1088.9	1028.9	944.9	830.9	728.9	615.9	517.9	422.0	332.0	256.0
50°	735.9	732.9	692.9	650.9	566.9	495.9	409.0	324.0	259.0	196.0	147.0
52.5°	372.0	371.0	348.0	336.0	294.0	251.0	198.0	155.0	126.0	93.0	68.0
55°	134.0	138.0	134.0	127.0	111.0	95.0	76.0	65.0	56.0	48.0	43.0
57.5°	63.0	61.0	59.0	57.0	53.0	49.0	45.0	43.0	41.0	38.0	36.0
60°	45.0	44.0	43.0	43.0	40.0	39.0	36.0	35.0	33.0	30.0	28.0
62.5°	34.0	33.0	33.0	32.0	31.0	30.0	28.0	27.0	26.0	24.0	22.0
65°	24.0	24.0	24.0	25.0	23.0	22.0	21.0	20.0	19.0	17.0	16.0
67.5°	17.0	16.0	16.0	17.0	16.0	16.0	14.0	14.0	13.0	12.0	11.0
70°	11.0	11.0	10.0	10.0	10.0	9.0	9.0	8.0	8.0	7.0	6.0
72.5°	6.0	6.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	3.0
75°	2.0	1.0	1.0	1.0	1.0	2.0	1.0	2.0	2.0	2.0	2.0
77.5°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0
80°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0
82.5°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0
85°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0
87.5°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	639.9	639.9	639.9	639.9	639.9	639.9	639.9	639.9	639.9	639.9	639.9
2.5°	707.9	696.9	683.9	678.9	663.9	654.9	643.9	639.9	629.9	610.9	603.9
5°	792.9	759.9	733.9	721.9	685.9	663.9	640.9	623.9	601.9	572.9	554.9
7.5°	861.9	813.9	771.9	746.9	695.9	659.9	624.9	596.9	565.9	527.9	502.9
10°	926.9	854.9	796.9	758.9	691.9	637.9	597.9	560.9	523.9	476.9	447.9
12.5°	974.9	880.9	807.9	753.9	674.9	617.9	563.9	517.9	476.9	427.0	395.0
15°	1002.9	890.9	800.9	733.9	646.9	581.9	520.9	470.9	424.0	375.0	341.0
17.5°	1007.9	878.9	776.9	700.9	608.9	536.9	462.9	422.0	373.0	326.0	291.0
20°	990.9	852.9	741.9	659.9	561.9	486.9	425.0	371.0	323.0	277.0	246.0
22.5°	952.9	809.9	694.9	608.9	508.9	436.0	373.0	320.0	275.0	234.0	206.0
25°	898.9	754.9	639.9	551.9	454.9	383.0	323.0	275.0	235.0	198.0	174.0
27.5°	826.9	690.9	574.9	492.9	400.0	334.0	276.0	233.0	199.0	167.0	147.0
30°	757.9	622.9	511.9	431.0	347.0	287.0	236.0	198.0	168.0	143.0	126.0
32.5°	676.9	553.9	447.9	375.0	297.0	243.0	199.0	168.0	143.0	122.0	108.0
35°	590.9	478.9	383.0	318.0	251.0	203.0	167.0	141.0	121.0	104.0	93.0
37.5°	507.9	407.0	323.0	265.0	207.0	170.0	139.0	120.0	102.0	89.0	79.0
40°	424.0	337.0	264.0	216.0	170.0	140.0	115.0	99.0	85.0	74.0	66.0
42.5°	348.0	273.0	215.0	174.0	136.0	112.0	92.0	79.0	67.0	58.0	52.0
45°	276.0	215.0	165.0	131.0	100.0	82.0	68.0	59.0	51.0	45.0	41.0
47.5°	197.0	147.0	109.0	85.0	68.0	55.0	47.0	44.0	40.0	36.0	33.0
50°	108.0	82.0	64.0	54.0	46.0	42.0	38.0	35.0	32.0	28.0	24.0
52.5°	58.0	49.0	43.0	41.0	37.0	34.0	30.0	27.0	24.0	21.0	19.0
55°	41.0	38.0	35.0	33.0	29.0	26.0	23.0	21.0	19.0	17.0	15.0
57.5°	33.0	30.0	28.0	26.0	23.0	20.0	18.0	16.0	15.0	13.0	11.0
60°	26.0	24.0	22.0	20.0	18.0	16.0	14.0	12.0	11.0	9.0	8.0
62.5°	20.0	18.0	16.0	15.0	13.0	12.0	10.0	9.0	7.0	6.0	5.0
65°	14.0	13.0	12.0	10.0	9.0	8.0	6.0	5.0	5.0	4.0	3.0
67.5°	10.0	8.0	8.0	7.0	6.0	5.0	4.0	3.0	3.0	3.0	2.0
70°	6.0	5.0	4.0	4.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0
72.5°	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
75°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
77.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
80°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
82.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
85°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
87.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	639.9	639.9	639.9	639.9	639.9	639.9	639.9	639.9	639.9	639.9	639.9
2.5°	591.9	578.9	567.9	571.9	563.9	548.9	550.9	531.9	534.9	532.9	525.9
5°	533.9	514.9	495.9	490.9	467.9	458.9	454.9	429.0	433.0	419.0	417.0
7.5°	474.9	448.9	428.0	415.0	402.0	379.0	371.0	351.0	346.0	339.0	327.0
10°	416.0	386.0	371.0	345.0	327.0	307.0	293.0	278.0	272.0	264.0	254.0
12.5°	359.0	329.0	304.0	285.0	269.0	248.0	237.0	223.0	217.0	209.0	201.0
15°	305.0	276.0	253.0	234.0	218.0	201.0	189.0	176.0	171.0	165.0	159.0
17.5°	258.0	231.0	208.0	193.0	178.0	165.0	156.0	144.0	138.0	134.0	129.0
20°	216.0	191.0	172.0	160.0	148.0	136.0	129.0	119.0	115.0	111.0	106.0
22.5°	180.0	160.0	144.0	136.0	124.0	114.0	108.0	101.0	96.0	93.0	89.0
25°	152.0	136.0	123.0	115.0	105.0	97.0	91.0	85.0	82.0	79.0	77.0
27.5°	129.0	116.0	105.0	98.0	90.0	84.0	79.0	74.0	72.0	69.0	67.0
30°	112.0	100.0	91.0	85.0	79.0	74.0	70.0	66.0	64.0	61.0	59.0
32.5°	97.0	87.0	80.0	76.0	70.0	66.0	62.0	58.0	56.0	53.0	51.0
35°	83.0	75.0	70.0	67.0	61.0	57.0	54.0	50.0	48.0	45.0	44.0
37.5°	72.0	65.0	60.0	56.0	51.0	48.0	44.0	41.0	40.0	38.0	37.0
40°	60.0	53.0	49.0	45.0	41.0	39.0	37.0	34.0	33.0	32.0	30.0
42.5°	46.0	42.0	39.0	37.0	34.0	31.0	29.0	26.0	25.0	24.0	22.0
45°	37.0	35.0	31.0	28.0	25.0	23.0	21.0	19.0	18.0	17.0	16.0
47.5°	29.0	26.0	23.0	21.0	19.0	18.0	16.0	15.0	14.0	13.0	12.0
50°	22.0	20.0	18.0	17.0	15.0	13.0	12.0	10.0	9.0	9.0	8.0
52.5°	17.0	16.0	14.0	12.0	11.0	10.0	8.0	7.0	6.0	5.0	4.0
55°	13.0	12.0	10.0	9.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0
57.5°	10.0	8.0	7.0	6.0	5.0	3.0	3.0	2.0	1.0	1.0	1.0
60°	6.0	5.0	4.0	3.0	3.0	2.0	2.0	2.0	2.0	1.0	1.0
62.5°	4.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
65°	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
67.5°	2.0	2.0	2.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
70°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
72.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
75°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0
77.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
80°	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
82.5°	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
85°	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	0.0
87.5°	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	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):

	165°	170°	175°	180°
0°	639.9	639.9	639.9	639.9
2.5°	523.9	524.9	519.9	527.9
5°	416.0	413.0	413.0	408.0
7.5°	325.0	321.0	318.0	318.0
10°	252.0	251.0	245.0	247.0
12.5°	197.0	196.0	191.0	193.0
15°	156.0	155.0	151.0	152.0
17.5°	126.0	124.0	123.0	123.0
20°	104.0	102.0	101.0	102.0
22.5°	88.0	87.0	86.0	86.0
25°	75.0	75.0	74.0	74.0
27.5°	66.0	65.0	64.0	64.0
30°	58.0	57.0	57.0	57.0
32.5°	50.0	49.0	49.0	49.0
35°	42.0	42.0	42.0	42.0
37.5°	36.0	36.0	36.0	36.0
40°	30.0	29.0	29.0	29.0
42.5°	21.0	21.0	20.0	20.0
45°	16.0	15.0	15.0	15.0
47.5°	11.0	10.0	10.0	10.0
50°	7.0	6.0	6.0	6.0
52.5°	3.0	3.0	3.0	3.0
55°	1.0	1.0	1.0	1.0
57.5°	1.0	1.0	1.0	1.0
60°	1.0	1.0	1.0	1.0
62.5°	2.0	2.0	2.0	2.0
65°	2.0	2.0	2.0	2.0
67.5°	2.0	2.0	2.0	2.0
70°	2.0	2.0	2.0	2.0
72.5°	1.0	1.0	1.0	1.0
75°	1.0	1.0	1.0	1.0
77.5°	1.0	1.0	1.0	1.0
80°	1.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)