

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: P130091

Luminaire Tested: **HL618TAT - HLM6927 - HL6NFL - 73PS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P130091
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33478)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL618TAT - HLM6927 - HL6NFL - 73PS
Description: HALO ALLSLOPE 6" 30W, Fresnel 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 / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1440.0 lumens
Efficiency: N/A
Efficacy: 52.2 lumens/watt
Spacing Criteria (0/90/45): 1.67 / 0.76 / 1.09
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')
CIE Type: Direct

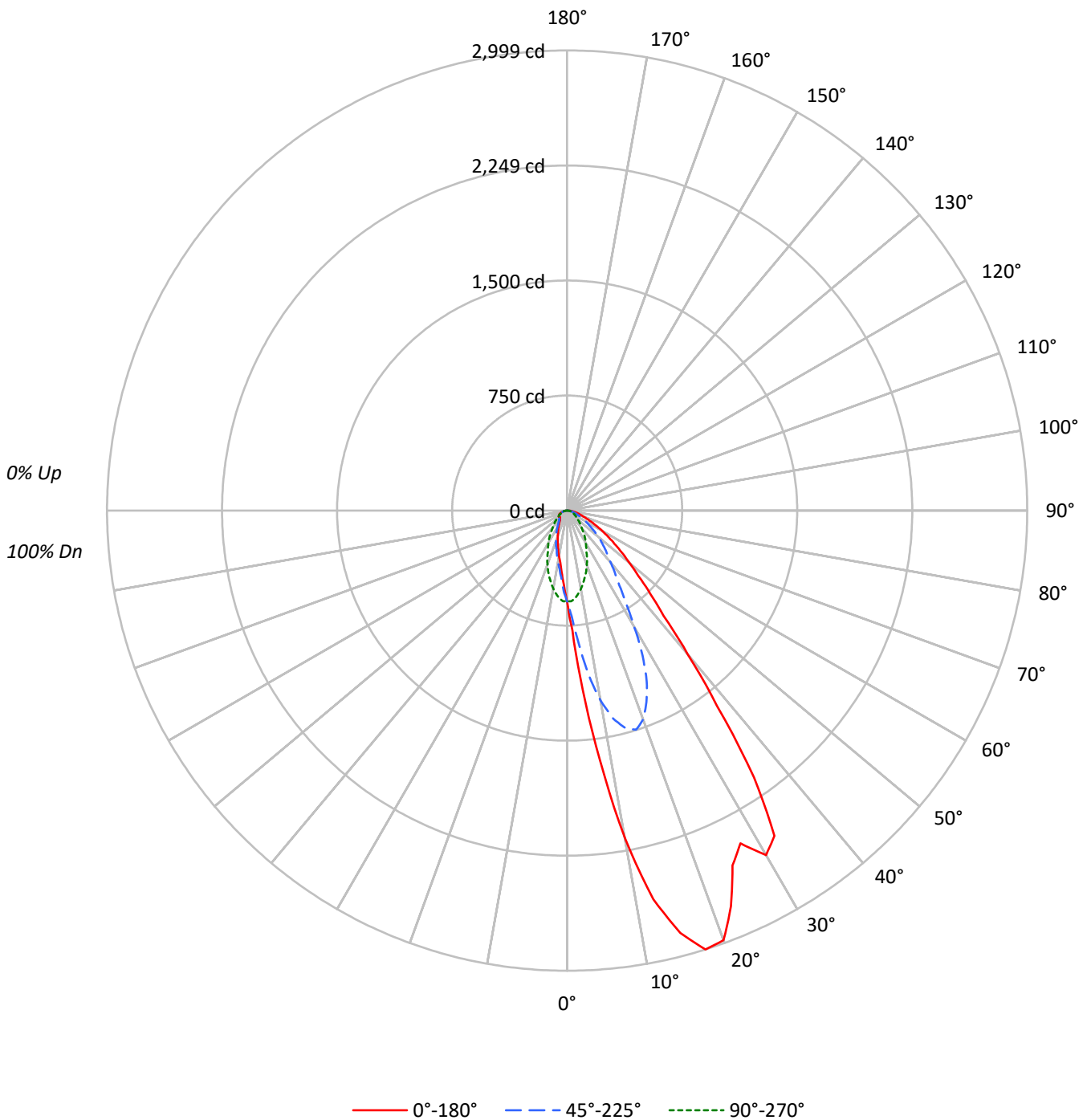
Input Watts (W): 27.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89
2	103	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	80	78
3	96	88	81	76	94	86	80	75	84	78	74	81	77	73	79	75	72	70
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	63
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56
6	79	67	60	54	77	66	59	54	65	58	54	63	58	53	62	57	53	51
7	74	62	55	49	72	61	54	49	60	54	49	59	53	49	57	52	48	47
8	69	58	50	45	68	57	50	45	56	49	45	55	49	45	53	48	44	43
9	65	54	46	42	64	53	46	41	52	46	41	51	45	41	50	45	41	39
10	62	50	43	38	60	49	43	38	49	42	38	48	42	38	47	42	38	36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	35283	35283	35283
5°	68635	33676	23657
10°	125652	29997	17601
15°	164431	25845	13326
20°	172619	21720	10310
25°	149507	17346	8087
30°	154909	14521	6394
35°	130445	11919	5222
40°	77993	9430	4587
45°	51161	7870	4335
50°	37175	6489	4584
55°	28365	5432	4979
60°	21420	4824	4905
65°	15475	4229	5218
70°	11298	3632	4439
75°	8916	3126	3821
80°	6170	2605	3428
85°	5089	1866	1866



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.3	4.8
10°-20°	260.9	18.1
20°-30°	359.7	25.0
30°-40°	309.1	21.5
40°-50°	185.1	12.9
50°-60°	123.2	8.6
60°-70°	76.2	5.3
70°-80°	41.2	2.9
80°-90°	15.4	1.1
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°	689.9	47.9
0°-40°	998.9	69.4
0°-60°	1307.1	90.8
0°-90°	1440.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1440.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	591	591	591	591	591	
5°	1172	872	575	439	404	143
15°	2850	1469	448	265	231	793
25°	2551	1228	296	168	138	1217
35°	2123	592	194	99	85	1261
45°	767	344	118	72	65	614
55°	376	190	72	60	66	342
65°	172	93	47	50	58	176
75°	77	42	27	30	33	80
85°	30	17	11	11	11	30
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°	591.1	591.1	591.1	591.1	591.1	591.1	591.1	591.1	591.1	591.1	591.1
2.5°	781.1	753.1	759.1	751.1	749.1	725.1	727.1	715.1	700.1	688.1	688.1
5°	1172.1	1161.1	1162.1	1130.1	1097.1	1047.1	1003.1	986.1	924.1	872.1	837.1
7.5°	1640.2	1620.2	1609.2	1543.2	1504.2	1420.2	1350.1	1280.1	1177.1	1082.1	1004.1
10°	2170.2	2165.2	2140.2	2049.2	1967.2	1810.2	1683.2	1567.2	1391.2	1258.1	1132.1
12.5°	2595.3	2580.3	2570.3	2491.3	2367.3	2182.2	1992.2	1801.2	1573.2	1389.2	1226.1
15°	2850.3	2851.3	2846.3	2761.3	2629.3	2419.3	2186.2	1954.2	1689.2	1469.2	1280.1
17.5°	2999.3	2983.3	2979.3	2874.3	2716.3	2483.3	2243.2	2007.2	1704.2	1497.2	1278.1
20°	2980.3	2967.3	2945.3	2829.3	2646.3	2413.3	2185.2	1962.2	1691.2	1449.2	1215.1
22.5°	2790.3	2788.3	2765.3	2666.3	2486.3	2272.2	2071.2	1866.2	1601.2	1351.1	1127.1
25°	2551.3	2562.3	2567.3	2487.3	2352.3	2178.2	1988.2	1765.2	1486.2	1228.1	1007.1
27.5°	2445.3	2461.3	2489.3	2436.3	2317.3	2120.2	1912.2	1645.2	1324.1	1064.1	861.1
30°	2592.3	2583.3	2554.3	2440.3	2268.2	1998.2	1715.2	1414.2	1092.1	874.1	720.1
32.5°	2514.3	2477.3	2414.3	2231.2	2004.2	1698.2	1401.2	1122.1	873.1	712.1	605.1
35°	2123.2	2104.2	2032.2	1810.2	1589.2	1299.1	1073.1	871.1	706.1	592.1	522.1
37.5°	1606.2	1565.2	1496.2	1348.1	1188.1	987.1	828.1	700.1	587.1	509.1	446.0
40°	1224.1	1190.1	1142.1	1028.1	907.1	779.1	672.1	582.1	503.1	441.0	391.0
42.5°	931.1	921.1	890.1	819.1	739.1	643.1	572.1	504.1	440.0	389.0	350.0
45°	767.1	755.1	739.1	690.1	627.1	550.1	492.1	436.0	385.0	344.0	311.0
47.5°	631.1	622.1	606.1	568.1	525.1	468.1	424.0	380.0	338.0	304.0	273.0
50°	527.1	528.1	511.1	486.1	448.0	402.0	367.0	332.0	296.0	261.0	238.0
52.5°	448.0	444.0	431.0	411.0	380.0	346.0	317.0	287.0	254.0	227.0	203.0
55°	376.0	371.0	363.0	346.0	323.0	296.0	271.0	244.0	215.0	190.0	172.0
57.5°	315.0	311.0	304.0	291.0	271.0	248.0	227.0	205.0	181.0	161.0	146.0
60°	262.0	259.0	253.0	243.0	226.0	207.0	190.0	171.0	151.0	136.0	124.0
62.5°	215.0	211.0	208.0	201.0	185.0	172.0	157.0	141.0	127.0	113.0	103.0
65°	172.0	171.0	169.0	163.0	155.0	140.0	129.0	116.0	104.0	93.0	86.0
67.5°	139.0	138.0	138.0	132.0	123.0	112.0	104.0	95.0	85.0	77.0	71.0
70°	112.0	111.0	110.0	105.0	100.0	91.0	85.0	77.0	70.0	63.0	59.0
72.5°	89.0	89.0	89.0	86.0	81.0	75.0	69.0	63.0	57.0	52.0	48.0
75°	77.0	77.0	73.0	72.0	68.0	63.0	57.0	52.0	47.0	42.0	40.0
77.5°	59.0	61.0	59.0	58.0	55.0	50.0	46.0	42.0	37.0	34.0	32.0
80°	45.0	45.0	45.0	43.0	41.0	38.0	35.0	32.0	29.0	26.0	25.0
82.5°	37.0	37.0	35.0	33.0	31.0	29.0	28.0	26.0	23.0	20.0	19.0
85°	30.0	30.0	31.0	30.0	27.0	24.0	21.0	20.0	18.0	17.0	16.0
87.5°	22.0	21.0	20.0	20.0	18.0	16.0	15.0	14.0	12.0	11.0	11.0
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°	591.1	591.1	591.1	591.1	591.1	591.1	591.1	591.1	591.1	591.1	591.1
2.5°	667.1	653.1	636.1	632.1	625.1	601.1	597.1	591.1	579.1	564.1	564.1
5°	791.1	744.1	700.1	673.1	649.1	610.1	592.1	575.1	554.1	528.1	522.1
7.5°	906.1	824.1	752.1	701.1	658.1	604.1	575.1	548.1	520.1	489.1	476.1
10°	994.1	877.1	783.1	710.1	650.1	585.1	548.1	518.1	483.1	451.0	435.0
12.5°	1049.1	902.1	786.1	699.1	630.1	558.1	517.1	482.1	447.0	412.0	394.0
15°	1067.1	897.1	769.1	675.1	600.1	527.1	485.1	448.0	411.0	378.0	363.0
17.5°	1041.1	861.1	731.1	633.1	561.1	491.1	451.0	413.0	380.0	346.0	330.0
20°	983.1	801.1	677.1	587.1	516.1	449.0	409.0	375.0	344.0	313.0	295.0
22.5°	898.1	729.1	615.1	534.1	469.1	406.0	369.0	339.0	307.0	280.0	265.0
25°	797.1	651.1	553.1	477.1	419.0	365.0	331.0	296.0	275.0	250.0	236.0
27.5°	688.1	572.1	484.1	427.0	374.0	325.0	296.0	269.0	248.0	225.0	211.0
30°	586.1	498.1	429.0	375.0	332.0	289.0	267.0	243.0	222.0	200.0	188.0
32.5°	510.1	434.0	377.0	336.0	299.0	263.0	241.0	219.0	198.0	178.0	167.0
35°	436.0	378.0	336.0	299.0	267.0	235.0	215.0	194.0	174.0	157.0	146.0
37.5°	385.0	337.0	297.0	266.0	236.0	208.0	188.0	169.0	153.0	137.0	128.0
40°	340.0	299.0	264.0	235.0	208.0	180.0	164.0	148.0	134.0	121.0	113.0
42.5°	305.0	267.0	236.0	207.0	183.0	159.0	144.0	131.0	120.0	109.0	102.0
45°	270.0	235.0	206.0	182.0	161.0	141.0	129.0	118.0	107.0	98.0	92.0
47.5°	238.0	206.0	180.0	161.0	143.0	125.0	113.0	105.0	96.0	87.0	83.0
50°	207.0	178.0	157.0	140.0	124.0	110.0	101.0	92.0	85.0	78.0	75.0
52.5°	177.0	152.0	134.0	120.0	106.0	94.0	88.0	81.0	76.0	71.0	69.0
55°	150.0	131.0	115.0	102.0	92.0	82.0	77.0	72.0	69.0	66.0	64.0
57.5°	127.0	112.0	98.0	89.0	82.0	73.0	69.0	65.0	63.0	60.0	59.0
60°	107.0	94.0	83.0	76.0	69.0	64.0	62.0	59.0	57.0	55.0	55.0
62.5°	89.0	79.0	71.0	67.0	60.0	57.0	55.0	53.0	52.0	50.0	51.0
65°	74.0	66.0	60.0	56.0	53.0	50.0	49.0	47.0	46.0	45.0	46.0
67.5°	63.0	56.0	51.0	48.0	46.0	44.0	43.0	41.0	41.0	41.0	42.0
70°	52.0	47.0	44.0	41.0	39.0	37.0	37.0	36.0	36.0	36.0	36.0
72.5°	43.0	39.0	36.0	35.0	33.0	32.0	32.0	32.0	32.0	31.0	32.0
75°	36.0	32.0	30.0	29.0	28.0	27.0	27.0	27.0	27.0	26.0	27.0
77.5°	29.0	27.0	26.0	25.0	24.0	24.0	24.0	23.0	23.0	23.0	23.0
80°	23.0	22.0	20.0	20.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
82.5°	18.0	16.0	16.0	16.0	15.0	15.0	15.0	15.0	14.0	15.0	15.0
85°	14.0	13.0	12.0	12.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
87.5°	9.0	9.0	8.0	8.0	7.0	7.0	7.0	7.0	6.0	6.0	6.0
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°	591.1	591.1	591.1	591.1	591.1	591.1	591.1	591.1	591.1	591.1	591.1
2.5°	548.1	549.1	534.1	527.1	524.1	524.1	505.1	506.1	499.1	506.1	495.1
5°	500.1	489.1	475.1	463.1	455.0	439.0	430.0	428.0	422.0	423.0	414.0
7.5°	451.0	441.0	420.0	409.0	397.0	383.0	371.0	369.0	362.0	360.0	353.0
10°	408.0	393.0	371.0	361.0	351.0	340.0	329.0	326.0	319.0	319.0	313.0
12.5°	369.0	355.0	338.0	325.0	315.0	303.0	292.0	290.0	282.0	281.0	273.0
15°	335.0	323.0	305.0	293.0	282.0	265.0	259.0	256.0	248.0	246.0	240.0
17.5°	304.0	291.0	273.0	261.0	253.0	240.0	230.0	226.0	220.0	217.0	211.0
20°	273.0	261.0	244.0	231.0	223.0	211.0	202.0	199.0	192.0	191.0	186.0
22.5°	245.0	232.0	216.0	207.0	198.0	187.0	179.0	176.0	170.0	168.0	163.0
25°	218.0	207.0	193.0	186.0	177.0	168.0	160.0	157.0	151.0	149.0	145.0
27.5°	194.0	184.0	173.0	165.0	159.0	148.0	141.0	139.0	133.0	130.0	126.0
30°	173.0	164.0	153.0	145.0	139.0	128.0	123.0	121.0	116.0	114.0	111.0
32.5°	153.0	144.0	134.0	127.0	120.0	113.0	107.0	105.0	102.0	101.0	98.0
35°	134.0	126.0	117.0	111.0	105.0	99.0	95.0	94.0	91.0	90.0	87.0
37.5°	117.0	110.0	103.0	98.0	94.0	89.0	86.0	84.0	82.0	81.0	79.0
40°	104.0	98.0	93.0	89.0	86.0	81.0	78.0	78.0	76.0	75.0	73.0
42.5°	93.0	89.0	85.0	82.0	79.0	76.0	73.0	73.0	71.0	71.0	68.0
45°	86.0	83.0	79.0	76.0	74.0	72.0	70.0	70.0	69.0	68.0	67.0
47.5°	78.0	76.0	73.0	71.0	69.0	68.0	66.0	68.0	67.0	67.0	67.0
50°	71.0	70.0	68.0	67.0	66.0	65.0	65.0	66.0	66.0	66.0	66.0
52.5°	66.0	65.0	64.0	63.0	64.0	63.0	62.0	63.0	63.0	64.0	65.0
55°	62.0	61.0	61.0	61.0	62.0	60.0	60.0	62.0	62.0	63.0	63.0
57.5°	58.0	58.0	58.0	58.0	58.0	58.0	58.0	59.0	60.0	62.0	62.0
60°	54.0	54.0	54.0	55.0	55.0	55.0	55.0	57.0	57.0	58.0	59.0
62.5°	49.0	50.0	50.0	51.0	52.0	53.0	54.0	56.0	56.0	57.0	58.0
65°	45.0	46.0	47.0	48.0	49.0	50.0	50.0	52.0	52.0	53.0	54.0
67.5°	41.0	42.0	42.0	43.0	44.0	44.0	44.0	47.0	47.0	48.0	49.0
70°	36.0	37.0	37.0	38.0	39.0	39.0	40.0	41.0	40.0	41.0	42.0
72.5°	31.0	33.0	34.0	34.0	35.0	35.0	35.0	36.0	36.0	36.0	37.0
75°	27.0	28.0	28.0	29.0	30.0	30.0	30.0	31.0	32.0	32.0	32.0
77.5°	24.0	24.0	25.0	25.0	25.0	26.0	26.0	27.0	27.0	27.0	27.0
80°	19.0	20.0	20.0	21.0	21.0	22.0	22.0	24.0	23.0	23.0	23.0
82.5°	15.0	15.0	16.0	16.0	16.0	17.0	17.0	18.0	17.0	17.0	17.0
85°	11.0	11.0	11.0	11.0	11.0	11.0	11.0	12.0	11.0	12.0	11.0
87.5°	6.0	6.0	6.0	5.0	5.0	5.0	5.0	6.0	5.0	5.0	5.0
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°	591.1	591.1	591.1	591.1
2.5°	492.1	488.1	491.1	486.1
5°	410.0	405.0	407.0	404.0
7.5°	349.0	346.0	345.0	343.0
10°	308.0	306.0	306.0	304.0
12.5°	271.0	266.0	267.0	267.0
15°	236.0	233.0	233.0	231.0
17.5°	207.0	203.0	204.0	201.0
20°	182.0	178.0	179.0	178.0
22.5°	161.0	157.0	157.0	155.0
25°	142.0	140.0	139.0	138.0
27.5°	124.0	122.0	122.0	121.0
30°	110.0	107.0	108.0	107.0
32.5°	98.0	96.0	96.0	95.0
35°	87.0	85.0	85.0	85.0
37.5°	79.0	77.0	77.0	77.0
40°	72.0	71.0	72.0	72.0
42.5°	69.0	67.0	68.0	68.0
45°	66.0	65.0	65.0	65.0
47.5°	66.0	64.0	64.0	63.0
50°	67.0	66.0	66.0	65.0
52.5°	66.0	67.0	69.0	68.0
55°	65.0	65.0	66.0	66.0
57.5°	62.0	62.0	62.0	62.0
60°	60.0	60.0	60.0	60.0
62.5°	59.0	59.0	60.0	59.0
65°	56.0	57.0	58.0	58.0
67.5°	50.0	50.0	51.0	50.0
70°	44.0	44.0	44.0	44.0
72.5°	37.0	37.0	38.0	39.0
75°	33.0	32.0	33.0	33.0
77.5°	28.0	27.0	27.0	27.0
80°	24.0	23.0	24.0	25.0
82.5°	17.0	16.0	17.0	16.0
85°	12.0	11.0	11.0	11.0
87.5°	5.0	5.0	5.0	5.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)