

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: P130063

Luminaire Tested: **HL618TAT - HLM6927 - HL6NFL - 455SC**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P130063
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33467)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL618TAT - HLM6927 - HL6NFL - 455SC
Description: HALO ALLSLOPE 6" 30W, Specular Clear Reflector, 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: 1996.0 lumens
Efficiency: N/A
Efficacy: 72.3 lumens/watt
Spacing Criteria (0/90/45): 1.94 / 0.73 / 1.15
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')
CIE Type: Direct

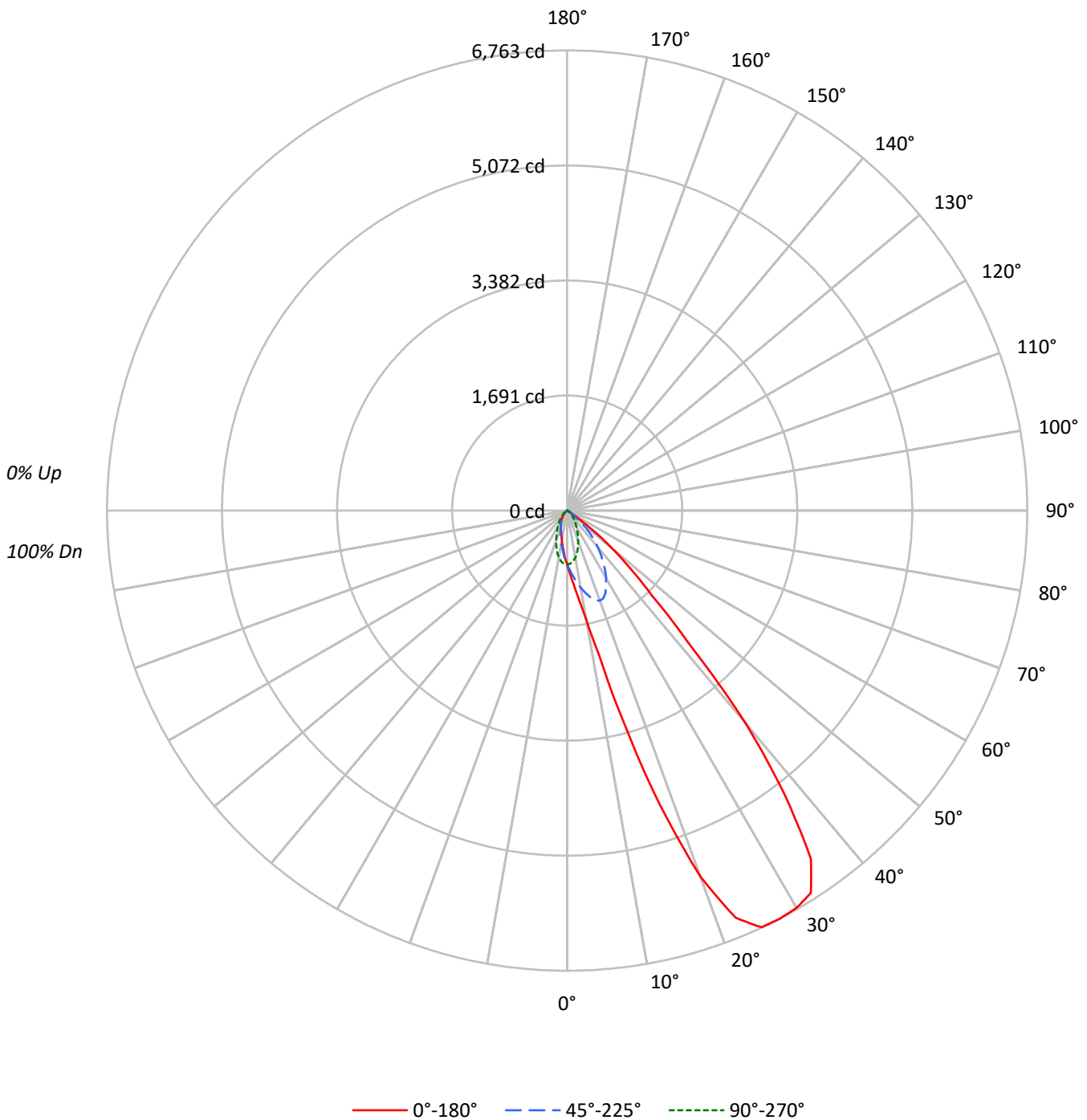
Input Watts (W): 27.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	113	109	107	104	110	107	105	102	103	101	99	99	98	96	96	95	93	92					92			
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	87	85	83					83			
3	99	92	86	81	97	90	85	80	87	83	79	85	81	78	83	79	77	75					75			
4	93	84	77	72	91	83	77	72	80	75	71	78	74	70	76	73	69	68					68			
5	87	77	70	65	85	76	70	65	74	68	64	72	67	64	71	66	63	61					61			
6	81	71	64	59	80	70	63	58	68	62	58	67	62	58	65	61	57	56					56			
7	76	65	58	53	75	65	58	53	63	57	53	62	56	52	61	56	52	50					50			
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46					46			
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	44	42					42			
10	63	52	45	40	62	51	45	40	50	44	40	50	44	40	49	44	40	38					38			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	47018	47018	47018
5°	63529	45118	35052
10°	94427	40454	25643
15°	186479	34238	19539
20°	331412	27350	15517
25°	395975	21096	12564
30°	402890	16194	10153
35°	383839	12423	7889
40°	260395	9468	5862
45°	117134	6609	4115
50°	61183	4493	2426
55°	14567	3048	1147
60°	4382	1987	499
65°	2816	1089	180
70°	1533	404	101
75°	463	232	0
80°	0	274	0
85°	0	339	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.1	3.9
10°-20°	293.4	14.7
20°-30°	619.2	31.0
30°-40°	623.1	31.2
40°-50°	295.9	14.8
50°-60°	68.5	3.4
60°-70°	14.5	0.7
70°-80°	3.0	0.1
80°-90°	1.3	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°	989.7	49.6
0°-40°	1612.8	80.8
0°-60°	1977.2	99.1
0°-90°	1996.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1996.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	788	788	788	788	788	
5°	1085	962	770	633	599	120
15°	3232	1318	594	370	339	1027
25°	6757	1333	360	224	214	3047
35°	6248	916	202	140	128	3666
45°	1756	478	99	70	62	1541
55°	193	62	40	24	15	264
65°	31	23	12	5	2	32
75°	4	3	2	2	0	6
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°	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7
2.5°	923.1	896.9	908.0	884.7	910.0	889.8	889.8	881.7	876.6	869.6	849.3
5°	1084.9	1051.6	1060.7	1046.5	1053.6	1028.3	1017.2	994.9	999.0	961.6	927.2
7.5°	1302.3	1254.8	1270.0	1228.5	1225.5	1193.1	1161.8	1121.3	1086.9	1055.6	1004.0
10°	1630.9	1568.2	1570.3	1500.5	1484.3	1410.5	1350.8	1271.0	1202.2	1150.6	1068.7
12.5°	2175.9	2060.6	2043.5	1914.0	1847.3	1695.6	1567.2	1440.8	1325.6	1236.6	1124.4
15°	3232.5	3067.7	2932.2	2617.8	2389.3	2100.1	1848.3	1639.0	1467.1	1318.5	1170.9
17.5°	4530.8	4306.3	4150.6	3726.9	3276.0	2640.0	2196.1	1837.2	1576.3	1380.2	1196.1
20°	5721.9	5432.7	5181.9	4688.5	4147.6	3422.6	2513.6	2011.1	1654.2	1407.5	1189.1
22.5°	6478.2	6256.7	6018.1	5433.7	4774.5	3892.8	2874.6	2123.3	1679.5	1393.3	1149.6
25°	6757.2	6558.1	6431.7	5845.2	5132.4	4198.1	2982.8	2128.4	1642.0	1332.6	1096.0
27.5°	6763.3	6585.4	6522.7	5954.4	5193.1	4082.9	2881.7	2019.2	1550.0	1224.5	1023.2
30°	6742.1	6563.1	6456.9	5804.8	4960.5	3802.8	2603.6	1827.1	1423.6	1147.6	941.3
32.5°	6663.2	6441.8	6182.9	5390.2	4475.2	3253.7	2216.4	1613.7	1263.9	1033.4	862.5
35°	6247.6	5965.5	5534.8	4692.6	3720.9	2576.3	1820.0	1388.3	1109.2	916.1	752.3
37.5°	5230.5	4994.9	4585.4	3768.4	2769.4	1969.6	1512.6	1195.1	965.6	807.9	658.2
40°	4086.9	3815.9	3337.7	2649.1	2021.2	1549.0	1234.6	1007.1	835.2	697.7	562.2
42.5°	2628.9	2510.6	2224.4	1833.1	1495.4	1223.4	1005.0	845.3	705.8	583.4	467.1
45°	1756.3	1672.4	1554.1	1343.8	1151.7	985.8	830.1	696.7	583.4	478.3	382.2
47.5°	1261.9	1189.1	1141.5	1019.2	896.9	783.6	666.3	552.1	448.9	365.0	286.1
50°	867.5	811.9	791.7	716.9	620.8	536.9	443.9	366.0	289.2	229.5	174.9
52.5°	477.2	447.9	438.8	399.4	353.9	295.2	233.6	186.0	146.6	115.3	91.0
55°	193.1	187.1	178.0	163.8	142.6	114.3	98.1	80.9	68.8	61.7	56.6
57.5°	77.9	74.8	73.8	68.8	64.7	58.6	54.6	51.6	49.5	48.5	46.5
60°	53.6	51.6	50.6	48.5	47.5	45.5	43.5	42.5	40.4	39.4	37.4
62.5°	40.4	39.4	39.4	37.4	37.4	36.4	35.4	33.4	32.4	31.3	29.3
65°	31.3	30.3	29.3	29.3	28.3	28.3	27.3	26.3	24.3	23.3	21.2
67.5°	22.2	22.2	21.2	21.2	20.2	20.2	19.2	18.2	17.2	16.2	15.2
70°	15.2	14.2	14.2	14.2	14.2	13.1	13.1	12.1	11.1	11.1	10.1
72.5°	9.1	9.1	9.1	8.1	8.1	8.1	7.1	7.1	7.1	6.1	6.1
75°	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
77.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0
80°	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
82.5°	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
85°	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	2.0	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°	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7
2.5°	841.2	839.2	819.0	809.9	807.9	799.8	796.8	786.6	750.2	752.3	756.3
5°	908.0	889.8	857.4	836.2	822.0	803.8	788.7	770.5	740.1	716.9	711.8
7.5°	965.6	932.2	885.7	852.4	824.1	794.7	767.4	739.1	703.7	674.4	660.3
10°	1013.1	963.6	898.9	852.4	812.9	772.5	736.1	698.7	655.2	620.8	603.6
12.5°	1043.5	976.7	896.9	837.2	786.6	734.1	693.6	651.2	602.6	563.2	543.0
15°	1061.7	971.7	880.7	806.9	747.2	687.6	641.0	593.5	543.0	502.5	480.3
17.5°	1060.7	969.7	850.3	767.4	698.7	633.0	582.4	532.9	484.3	442.9	418.6
20°	1035.4	920.1	804.8	717.9	647.1	575.3	520.7	472.2	423.7	386.2	363.0
22.5°	988.9	868.5	752.3	659.2	586.4	518.7	461.1	412.5	369.1	335.7	318.5
25°	934.3	808.9	695.6	594.5	524.8	457.0	404.4	360.0	321.5	291.2	277.0
27.5°	867.5	744.2	630.9	534.9	462.1	400.4	350.9	313.4	278.1	254.8	240.6
30°	786.6	673.4	558.1	473.2	403.4	347.8	302.3	271.0	241.7	220.4	212.3
32.5°	707.8	595.5	488.4	409.5	348.8	298.3	259.9	233.6	211.3	193.1	185.0
35°	626.9	515.7	423.7	348.8	298.3	253.8	224.5	202.2	183.0	168.9	162.8
37.5°	542.0	441.9	360.0	295.2	250.8	214.4	188.1	178.0	157.7	145.6	141.6
40°	454.0	369.1	301.3	248.7	210.3	181.0	161.8	148.6	134.5	127.4	123.4
42.5°	377.1	302.3	247.7	204.2	174.9	150.7	135.5	124.4	111.2	106.2	103.1
45°	303.3	241.7	195.1	161.8	137.5	119.3	107.2	99.1	91.0	85.9	83.9
47.5°	222.4	173.9	139.5	116.3	99.1	89.0	80.9	77.9	72.8	70.8	68.8
50°	135.5	108.2	90.0	77.9	70.8	67.7	64.7	63.7	59.7	57.6	54.6
52.5°	76.8	68.8	61.7	58.6	57.6	55.6	52.6	50.6	46.5	44.5	43.5
55°	53.6	52.6	50.6	48.5	46.5	43.5	41.5	40.4	37.4	36.4	34.4
57.5°	45.5	42.5	40.4	37.4	36.4	34.4	33.4	32.4	30.3	28.3	27.3
60°	35.4	33.4	31.3	30.3	29.3	27.3	25.3	24.3	22.2	21.2	20.2
62.5°	27.3	26.3	24.3	23.3	22.2	21.2	19.2	18.2	17.2	15.2	13.1
65°	20.2	19.2	18.2	17.2	16.2	15.2	13.1	12.1	11.1	10.1	9.1
67.5°	14.2	14.2	12.1	11.1	11.1	9.1	8.1	7.1	6.1	6.1	5.1
70°	9.1	9.1	8.1	7.1	6.1	5.1	5.1	4.0	4.0	4.0	3.0
72.5°	5.1	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
75°	3.0	2.0	2.0	3.0	3.0	3.0	3.0	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°	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7
2.5°	751.3	736.1	728.0	719.9	719.9	713.8	716.9	702.7	705.8	697.7	696.7
5°	698.7	694.6	661.3	651.2	635.0	633.0	636.0	617.8	615.8	607.7	600.6
7.5°	643.1	617.8	597.6	581.4	571.3	560.2	544.0	539.9	534.9	528.8	521.7
10°	582.4	554.1	530.8	511.6	505.6	490.4	482.3	470.2	462.1	455.0	449.9
12.5°	518.7	489.4	468.1	447.9	439.8	425.7	419.6	407.5	400.4	393.3	391.3
15°	454.0	427.7	404.4	389.3	380.2	370.1	365.0	351.9	349.8	343.8	339.7
17.5°	396.4	372.1	351.9	339.7	331.6	321.5	319.5	309.4	307.4	304.3	300.3
20°	342.8	323.6	306.4	296.3	291.2	285.1	282.1	275.0	273.0	271.0	269.0
22.5°	299.3	283.1	273.0	261.9	257.8	252.8	250.8	243.7	242.7	242.7	239.6
25°	260.9	248.7	239.6	230.5	228.5	223.5	223.5	217.4	218.4	216.4	215.4
27.5°	230.5	219.4	211.3	204.2	203.2	200.2	199.2	195.1	195.1	194.1	192.1
30°	202.2	194.1	187.1	182.0	182.0	179.0	179.0	174.9	173.9	172.9	172.9
32.5°	178.0	172.9	167.8	161.8	162.8	158.7	158.7	154.7	152.7	151.7	149.6
35°	155.7	152.7	147.6	143.6	143.6	139.5	137.5	133.5	132.5	131.4	130.4
37.5°	136.5	133.5	129.4	124.4	124.4	120.3	119.3	116.3	114.3	113.2	112.2
40°	118.3	115.3	111.2	106.2	106.2	102.1	101.1	99.1	98.1	96.1	95.0
42.5°	98.1	95.0	92.0	90.0	89.0	85.9	84.9	79.9	81.9	80.9	77.9
45°	80.9	79.9	76.8	73.8	72.8	69.8	67.7	64.7	63.7	63.7	61.7
47.5°	66.7	63.7	61.7	58.6	57.6	55.6	53.6	51.6	51.6	50.6	48.5
50°	52.6	50.6	49.5	46.5	45.5	43.5	42.5	40.4	39.4	37.4	36.4
52.5°	42.5	40.4	38.4	37.4	35.4	34.4	32.4	29.3	29.3	27.3	25.3
55°	33.4	31.3	29.3	28.3	26.3	24.3	23.3	21.2	19.2	18.2	17.2
57.5°	25.3	23.3	22.2	20.2	18.2	17.2	15.2	13.1	12.1	11.1	10.1
60°	18.2	17.2	15.2	13.1	12.1	11.1	10.1	8.1	8.1	7.1	7.1
62.5°	13.1	11.1	10.1	8.1	8.1	7.1	6.1	6.1	5.1	5.1	4.0
65°	8.1	7.1	6.1	6.1	5.1	5.1	4.0	4.0	3.0	3.0	3.0
67.5°	5.1	4.0	4.0	4.0	3.0	3.0	3.0	2.0	2.0	2.0	1.0
70°	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0
72.5°	3.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
75°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
77.5°	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
80°	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	0.0
82.5°	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	0.0
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°	787.7	787.7	787.7	787.7
2.5°	694.6	687.6	685.5	697.7
5°	602.6	594.5	592.5	598.6
7.5°	520.7	510.6	513.6	514.7
10°	447.9	440.8	439.8	442.9
12.5°	385.2	380.2	380.2	385.2
15°	337.7	334.7	333.7	338.7
17.5°	297.3	296.3	296.3	300.3
20°	265.9	264.9	264.9	267.9
22.5°	237.6	237.6	237.6	238.6
25°	213.3	214.4	213.3	214.4
27.5°	191.1	192.1	192.1	192.1
30°	173.9	169.9	170.9	169.9
32.5°	148.6	147.6	148.6	148.6
35°	128.4	128.4	128.4	128.4
37.5°	110.2	110.2	110.2	110.2
40°	93.0	93.0	93.0	92.0
42.5°	76.8	76.8	76.8	75.8
45°	60.7	60.7	60.7	61.7
47.5°	47.5	47.5	46.5	47.5
50°	35.4	34.4	34.4	34.4
52.5°	25.3	24.3	23.3	23.3
55°	16.2	15.2	15.2	15.2
57.5°	10.1	10.1	9.1	9.1
60°	6.1	6.1	6.1	6.1
62.5°	4.0	4.0	4.0	3.0
65°	2.0	2.0	2.0	2.0
67.5°	1.0	1.0	1.0	1.0
70°	1.0	1.0	1.0	1.0
72.5°	1.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0
80°	0.0	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)