

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: P130026

Luminaire Tested: **HL618TAT - HLM6927 - HL6FL - 455H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P130026
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33448)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL618TAT - HLM6927 - HL6FL - 455H
Description: HALO ALLSLOPE 6" 30W, Semi-Specular Haze Reflector, White Metal Trim Ring using 40 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: 1879.0 lumens
Efficiency: N/A
Efficacy: 68.1 lumens/watt
Spacing Criteria (0/90/45): 1.6 / 0.65 / 1.06
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')
CIE Type: Direct

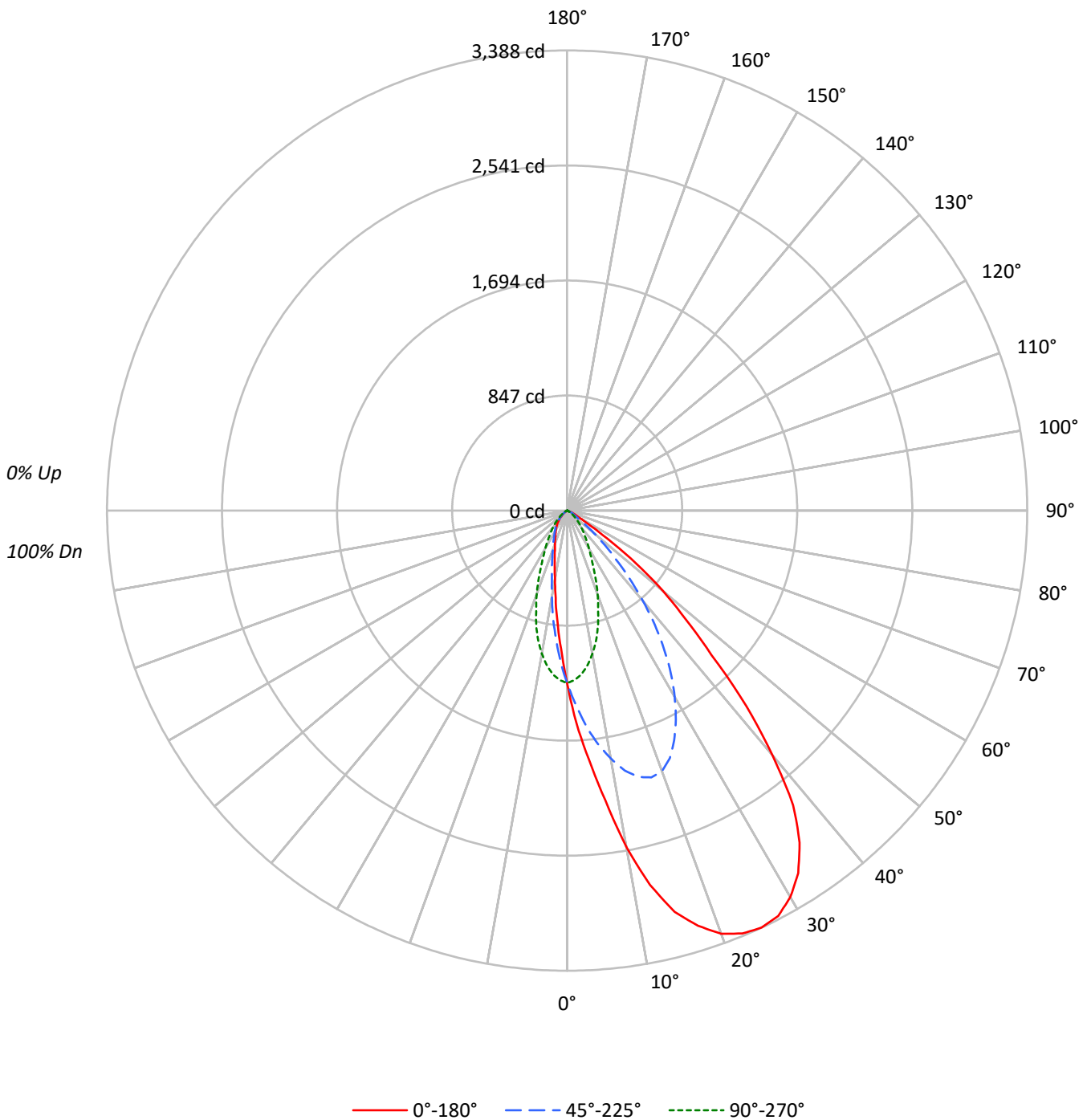
Input Watts (W): 27.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	107	104	110	107	105	103	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	82	78	83	80	77	75
4	93	85	78	73	91	83	77	73	81	76	72	79	75	71	77	73	70	69
5	88	78	71	66	86	77	71	66	75	69	65	73	68	65	72	67	64	62
6	82	72	65	60	81	71	65	60	69	64	59	68	63	59	67	62	59	57
7	77	67	60	55	76	66	59	55	65	59	54	63	58	54	62	57	54	52
8	73	62	55	50	71	61	55	50	60	54	50	59	54	50	58	53	49	48
9	69	58	51	46	67	57	51	46	56	50	46	55	50	46	54	49	46	44
10	65	54	47	43	64	53	47	43	52	47	43	52	46	42	51	46	42	41

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	75789	75789	75789
5°	107611	70895	48187
10°	145777	61946	29690
15°	176482	50709	20272
20°	192010	38024	15163
25°	198538	26476	11943
30°	196339	19116	9938
35°	183294	13971	8042
40°	149952	10411	6148
45°	100240	7416	4068
50°	64836	5000	2363
55°	27249	3417	1041
60°	7726	2175	482
65°	4427	1062	180
70°	2280	393	0
75°	567	232	0
80°	137	274	0
85°	0	339	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.3	6.5
10°-20°	355.6	18.9
20°-30°	505.5	26.9
30°-40°	489.4	26.0
40°-50°	293.8	15.6
50°-60°	90.5	4.8
60°-70°	18.9	1.0
70°-80°	3.1	0.2
80°-90°	1.1	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°	982.5	52.3
0°-40°	1471.8	78.3
0°-60°	1856.1	98.8
0°-90°	1879.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1879.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1270	1270	1270	1270	1270	
5°	1838	1590	1211	945	823	196
15°	3059	2030	879	431	351	862
25°	3388	1865	452	233	204	1553
35°	2983	1243	227	146	131	1827
45°	1503	511	111	75	61	1199
55°	361	89	45	25	14	370
65°	49	30	12	4	2	52
75°	5	2	2	1	0	8
85°	0	1	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°	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7
2.5°	1567.0	1536.5	1521.7	1502.0	1514.8	1494.2	1493.2	1490.2	1459.7	1426.3	1433.1
5°	1837.7	1809.1	1786.5	1755.0	1751.1	1717.6	1665.4	1698.9	1643.8	1589.6	1575.9
7.5°	2150.7	2110.3	2086.7	2025.7	2011.9	1917.4	1918.4	1884.9	1813.1	1732.4	1691.0
10°	2517.8	2466.7	2444.0	2354.4	2316.1	2215.7	2159.6	2086.7	1974.5	1854.4	1780.6
12.5°	2823.0	2776.7	2747.2	2644.8	2599.5	2478.5	2386.9	2282.6	2121.2	1960.7	1854.4
15°	3059.2	3010.0	2936.2	2863.3	2815.1	2678.3	2618.2	2431.2	2265.9	2029.6	1886.9
17.5°	3204.9	3166.5	3121.2	3012.9	2960.8	2829.9	2693.0	2528.7	2302.3	2060.1	1880.0
20°	3315.1	3270.8	3217.7	3106.5	3047.4	2895.8	2757.0	2573.9	2313.1	2041.4	1836.7
22.5°	3370.2	3326.9	3273.8	3151.7	3083.8	2918.5	2764.9	2554.3	2262.9	1973.5	1758.0
25°	3388.0	3341.7	3284.6	3153.7	3073.0	2894.8	2720.6	2479.5	2162.5	1865.2	1648.7
27.5°	3364.3	3313.2	3251.1	3115.3	3020.8	2823.0	2620.2	2342.6	2023.7	1733.4	1518.8
30°	3285.6	3237.4	3171.4	3030.7	2918.5	2685.2	2453.9	2151.7	1847.5	1582.8	1368.2
32.5°	3165.5	3113.3	3049.4	2890.9	2755.1	2496.2	2226.5	1939.1	1672.3	1422.3	1212.7
35°	2983.4	2930.3	2861.4	2674.3	2518.8	2235.3	1968.6	1728.4	1505.0	1243.2	1042.4
37.5°	2734.4	2671.4	2567.1	2395.8	2205.8	1937.1	1714.7	1511.9	1276.6	1060.1	876.0
40°	2353.5	2308.2	2199.9	2035.5	1864.3	1653.6	1479.4	1283.5	1064.0	866.2	712.6
42.5°	1953.8	1901.7	1815.0	1673.3	1542.4	1358.3	1194.9	1013.8	842.6	678.2	551.2
45°	1503.0	1468.6	1412.5	1306.2	1193.0	1059.1	934.1	796.3	668.3	510.9	413.4
47.5°	1182.1	1156.6	1117.2	1022.7	958.7	831.7	736.3	619.1	503.0	378.0	298.2
50°	919.3	903.6	867.2	787.4	727.4	633.9	546.3	445.9	340.6	253.9	201.8
52.5°	641.8	654.6	599.4	549.2	492.2	417.3	332.7	258.9	195.9	150.6	126.0
55°	361.2	358.3	339.6	296.3	249.0	197.8	156.5	131.9	107.3	88.6	79.7
57.5°	173.2	167.3	156.5	133.9	114.2	99.4	87.6	80.7	72.8	65.9	62.0
60°	94.5	93.5	88.6	81.7	77.8	71.9	66.9	63.0	57.1	52.2	48.2
62.5°	67.9	66.9	65.0	61.0	59.1	55.1	51.2	48.2	45.3	41.3	38.4
65°	49.2	49.2	48.2	45.3	44.3	41.3	39.4	36.4	33.5	30.5	28.5
67.5°	36.4	35.4	34.5	33.5	31.5	29.5	27.6	25.6	23.6	20.7	18.7
70°	22.6	21.7	21.7	20.7	19.7	17.7	15.7	14.8	13.8	11.8	10.8
72.5°	11.8	11.8	10.8	10.8	9.8	8.9	7.9	7.9	6.9	5.9	4.9
75°	4.9	3.9	3.9	3.9	3.9	3.9	3.0	3.0	3.0	2.0	2.0
77.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
85°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
87.5°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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°	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7
2.5°	1407.5	1384.9	1383.9	1350.5	1316.0	1306.2	1263.8	1248.1	1232.3	1192.0	1189.0
5°	1525.7	1485.3	1458.7	1400.7	1342.6	1308.1	1245.1	1210.7	1175.3	1140.8	1099.5
7.5°	1620.2	1555.2	1504.0	1416.4	1338.6	1282.5	1223.5	1147.7	1095.5	1053.2	994.1
10°	1692.0	1595.6	1519.8	1410.5	1311.1	1232.3	1141.8	1069.9	1006.0	951.8	889.8
12.5°	1731.4	1605.4	1508.9	1388.8	1258.9	1167.4	1057.1	980.4	888.8	841.6	768.7
15°	1737.3	1588.7	1469.6	1319.9	1187.1	1082.7	968.6	879.0	799.3	729.4	657.5
17.5°	1708.7	1541.4	1403.6	1237.3	1103.4	981.3	866.2	757.9	689.0	614.2	545.3
20°	1615.2	1467.6	1309.1	1137.9	996.1	876.0	752.0	656.5	576.8	503.0	450.8
22.5°	1556.2	1366.2	1197.9	1024.7	880.9	760.9	638.8	550.2	472.5	421.3	379.9
25°	1440.0	1241.2	1074.9	905.6	762.8	642.7	529.6	451.8	395.7	349.4	321.9
27.5°	1306.2	1109.3	945.9	784.5	647.7	534.5	438.0	378.0	332.7	302.2	273.6
30°	1143.8	974.5	814.0	667.4	531.5	436.0	364.2	319.9	283.5	255.9	236.2
32.5°	1015.8	837.6	691.0	544.3	436.0	365.2	307.1	269.7	241.2	222.5	203.8
35°	865.2	703.8	562.0	437.0	356.3	301.2	256.9	227.4	205.7	190.0	176.2
37.5°	714.6	560.1	442.9	353.4	290.4	249.0	213.6	192.9	174.2	163.4	152.6
40°	564.0	433.1	346.5	283.5	236.2	203.8	180.1	163.4	148.6	140.8	131.9
42.5°	426.2	331.7	274.6	227.4	192.9	169.3	149.6	137.8	126.0	116.1	111.2
45°	322.9	259.9	217.5	183.1	156.5	138.8	120.1	111.2	102.4	96.5	92.5
47.5°	246.1	200.8	165.4	136.8	120.1	105.3	94.5	86.6	82.7	81.7	76.8
50°	166.3	134.8	115.2	97.4	87.6	79.7	74.8	70.9	67.9	65.0	61.0
52.5°	104.3	89.6	80.7	72.8	68.9	65.0	61.0	58.1	54.1	52.2	47.2
55°	72.8	67.9	64.0	59.1	56.1	52.2	48.2	45.3	43.3	41.3	38.4
57.5°	58.1	54.1	51.2	47.2	44.3	41.3	38.4	36.4	33.5	32.5	28.5
60°	46.3	43.3	40.4	37.4	34.5	31.5	29.5	26.6	24.6	22.6	19.7
62.5°	36.4	33.5	30.5	28.5	25.6	23.6	20.7	18.7	16.7	14.8	12.8
65°	26.6	23.6	21.7	19.7	17.7	15.7	13.8	11.8	9.8	8.9	7.9
67.5°	17.7	14.8	13.8	12.8	10.8	8.9	7.9	5.9	5.9	4.9	4.9
70°	9.8	8.9	7.9	6.9	5.9	4.9	3.9	3.9	3.0	3.0	3.0
72.5°	4.9	3.9	3.9	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0
75°	3.0	2.0	2.0	3.0	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°	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
87.5°	1.0	1.0	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°	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7	1269.7
2.5°	1195.9	1163.4	1151.6	1118.2	1100.4	1112.3	1088.6	1074.9	1067.0	1068.0	1048.3
5°	1089.6	1045.3	1018.8	1023.7	932.1	944.9	920.3	896.7	888.8	875.0	863.2
7.5°	969.5	923.3	886.9	836.7	806.1	791.4	771.7	731.3	721.5	701.8	688.0
10°	849.5	795.3	755.0	693.9	661.4	642.7	611.3	581.7	570.9	558.1	537.4
12.5°	727.4	669.3	621.1	567.9	536.4	520.7	494.1	474.4	463.6	451.8	442.9
15°	602.4	541.4	506.9	466.6	441.0	431.1	410.5	396.7	385.8	378.0	371.1
17.5°	499.0	452.8	423.2	391.8	371.1	363.2	347.5	333.7	325.8	319.9	316.0
20°	417.3	379.9	358.3	332.7	318.9	308.1	294.3	287.4	282.5	278.6	274.6
22.5°	354.3	321.9	304.1	283.5	271.7	266.7	257.9	249.0	246.1	243.1	239.2
25°	302.2	276.6	261.8	247.1	237.2	233.3	225.4	219.5	217.5	214.6	212.6
27.5°	257.9	239.2	228.4	215.6	208.7	205.7	198.8	194.9	194.9	191.9	192.9
30°	223.4	208.7	199.8	190.0	185.0	183.1	178.2	175.2	174.2	172.3	171.3
32.5°	194.9	182.1	177.2	168.3	165.4	163.4	159.5	156.5	157.5	155.5	154.5
35°	169.3	160.4	156.5	149.6	147.6	145.7	142.7	139.8	139.8	137.8	135.8
37.5°	147.6	141.7	137.8	131.9	129.9	128.0	125.0	121.1	121.1	119.1	119.1
40°	129.9	122.1	120.1	113.2	110.2	108.3	106.3	104.3	102.4	100.4	100.4
42.5°	109.3	102.4	100.4	95.5	93.5	91.5	89.6	84.6	84.6	82.7	82.7
45°	89.6	85.6	83.7	79.7	76.8	74.8	71.9	68.9	67.9	65.9	65.0
47.5°	73.8	69.9	67.9	64.0	62.0	60.0	58.1	55.1	54.1	52.2	50.2
50°	60.0	56.1	54.1	51.2	49.2	47.2	45.3	42.3	41.3	38.4	37.4
52.5°	47.2	45.3	42.3	39.4	37.4	34.5	33.5	30.5	28.5	26.6	25.6
55°	36.4	34.5	31.5	28.5	26.6	24.6	22.6	20.7	18.7	17.7	15.7
57.5°	27.6	24.6	21.7	19.7	17.7	15.7	14.8	12.8	11.8	10.8	9.8
60°	18.7	15.7	14.8	12.8	10.8	9.8	8.9	7.9	7.9	6.9	6.9
62.5°	11.8	9.8	8.9	7.9	6.9	6.9	5.9	4.9	4.9	3.9	3.9
65°	6.9	5.9	5.9	4.9	4.9	3.9	3.9	3.0	3.0	3.0	2.0
67.5°	3.9	3.9	3.9	3.0	3.0	2.0	2.0	2.0	2.0	1.0	1.0
70°	3.0	3.0	3.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
72.5°	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
75°	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
77.5°	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
80°	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
82.5°	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0
85°	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0
87.5°	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	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°	1269.7	1269.7	1269.7	1269.7
2.5°	1039.4	1034.5	1046.3	1017.8
5°	858.3	842.6	857.3	822.9
7.5°	683.1	670.3	677.2	648.7
10°	536.4	519.7	528.6	512.8
12.5°	437.0	429.2	430.1	420.3
15°	366.2	358.3	361.2	351.4
17.5°	310.1	304.1	310.1	299.2
20°	269.7	263.8	268.7	261.8
22.5°	237.2	233.3	239.2	231.3
25°	205.7	207.7	209.7	203.8
27.5°	189.0	186.0	189.0	184.1
30°	170.3	167.3	170.3	166.3
32.5°	153.6	150.6	152.6	148.6
35°	134.8	132.9	134.8	130.9
37.5°	117.1	114.2	116.1	115.2
40°	98.4	97.4	98.4	96.5
42.5°	79.7	78.7	79.7	78.7
45°	63.0	62.0	64.0	61.0
47.5°	49.2	47.2	48.2	47.2
50°	35.4	34.5	34.5	33.5
52.5°	24.6	22.6	23.6	22.6
55°	15.7	14.8	14.8	13.8
57.5°	9.8	8.9	8.9	8.9
60°	5.9	5.9	5.9	5.9
62.5°	3.9	3.0	3.0	3.0
65°	2.0	2.0	2.0	2.0
67.5°	1.0	1.0	1.0	1.0
70°	1.0	0.0	0.0	0.0
72.5°	0.0	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)