

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: P130218

Luminaire Tested: **HL612ICAT - HLM6927 - HL6NFL - 70PS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P130218
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33474)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL612ICAT - HLM6927 - HL6NFL - 70PS
Description: HALO ALLSLOPE 6" 21W, Albalite 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: 734.1 lumens
Efficiency: N/A
Efficacy: 38.4 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.04 / 1.23
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')
CIE Type: Direct

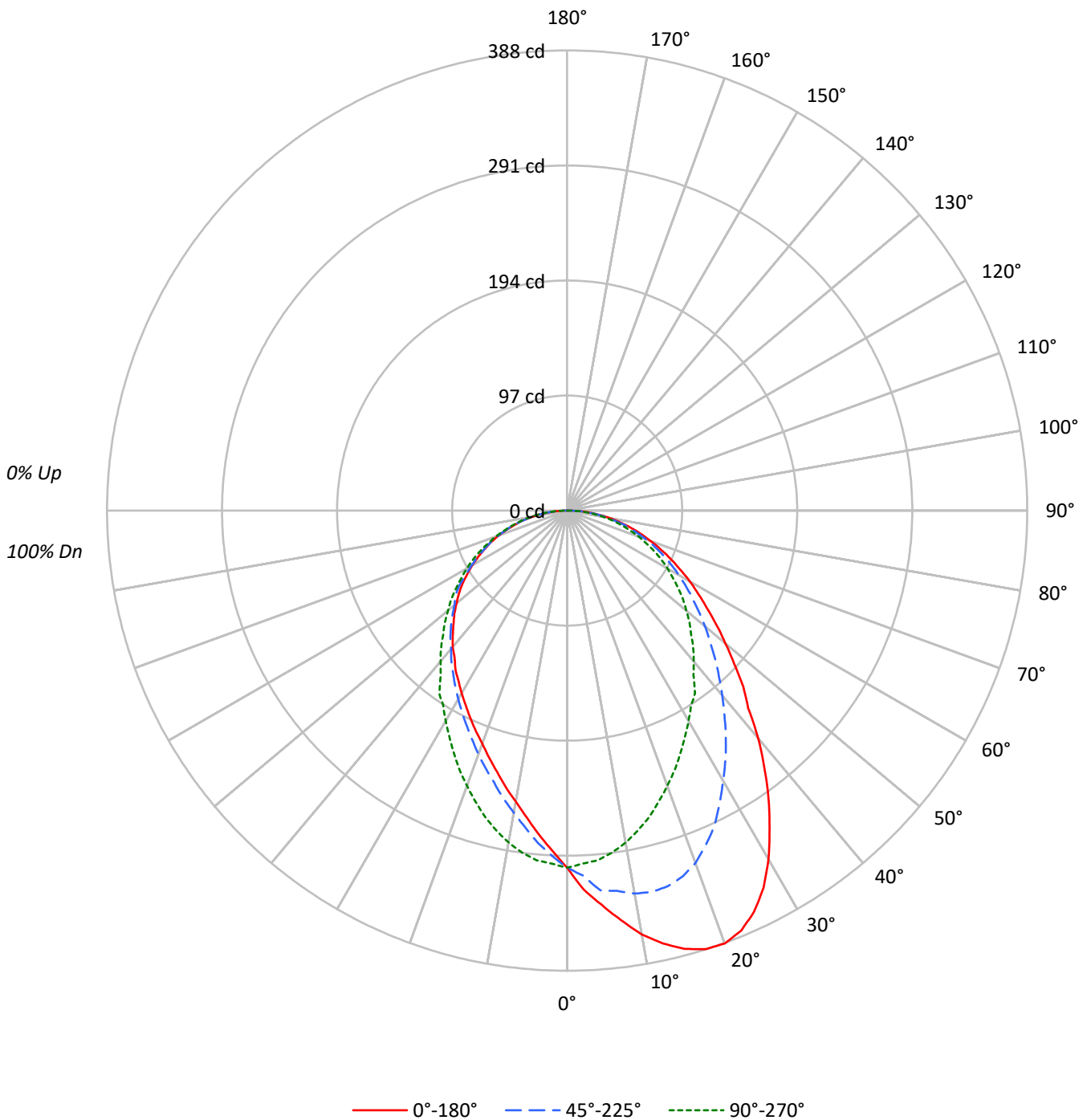
Input Watts (W): 19.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	104	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	84
2	99	91	84	78	96	89	83	77	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	67	60	55	65	59	54	63	58	53	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	49	43	55	48	42	53	47	42	52	46	41	39
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	38	34	44	38	33	31
9	58	44	36	31	56	44	36	31	43	36	31	42	35	30	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°	17967	17967	17967
5°	19541	17327	16045
10°	21011	16455	14428
15°	22072	15426	13159
20°	22496	14306	12111
25°	21864	13238	11316
30°	20294	12238	10625
35°	18179	11550	10076
40°	15973	10583	9564
45°	13999	9864	9037
50°	12286	9253	8583
55°	10886	8630	8132
60°	9770	7979	7562
65°	8655	7279	6883
70°	7576	6466	6174
75°	6415	5489	5234
80°	4991	4292	3990
85°	3206	2596	2341



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	28.5	3.9
10°-20°	80.2	10.9
20°-30°	115.2	15.7
30°-40°	127.7	17.4
40°-50°	123.0	16.7
50°-60°	107.3	14.6
60°-70°	82.8	11.3
70°-80°	51.6	7.0
80°-90°	17.7	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°	224.0	30.5
0°-40°	351.7	47.9
0°-60°	582.0	79.3
0°-90°	734.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	734.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	301	301	301	301	301	
5°	334	321	296	281	274	33
15°	383	328	267	238	228	108
25°	373	294	226	200	193	170
35°	296	233	188	168	164	185
45°	210	176	148	138	136	162
55°	144	129	114	112	108	130
65°	96	90	81	77	76	95
75°	55	52	47	46	45	59
85°	19	18	15	15	14	21
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°	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0
2.5°	319.9	312.6	314.1	314.8	314.1	309.7	309.7	311.2	310.4	308.2	310.4
5°	333.7	326.5	327.9	327.2	326.5	322.1	320.6	321.4	320.6	321.4	318.4
7.5°	348.3	341.0	341.8	341.0	338.9	333.0	330.8	330.1	328.6	323.5	322.8
10°	362.9	353.4	353.4	353.4	350.5	342.5	339.6	337.4	334.5	327.9	325.7
12.5°	373.8	365.1	364.4	363.6	359.3	356.3	345.4	341.8	337.4	329.4	325.7
15°	382.6	373.1	373.1	370.2	365.1	354.2	349.1	343.2	337.4	327.9	322.8
17.5°	387.7	378.9	377.5	373.8	367.3	355.6	348.3	341.0	333.7	323.5	317.7
20°	388.4	379.7	384.8	373.1	365.1	352.0	343.2	335.2	327.2	316.3	308.2
22.5°	383.3	374.6	379.7	366.5	358.5	344.7	335.2	325.7	317.0	305.3	298.0
25°	373.1	365.1	361.4	356.3	347.6	333.7	323.5	313.3	304.6	293.7	285.7
27.5°	358.5	350.5	346.1	341.0	333.0	319.2	309.0	298.8	290.0	278.4	271.1
30°	339.6	331.6	327.9	323.5	315.5	301.7	292.2	282.7	274.7	263.1	257.2
32.5°	317.7	312.6	307.5	303.9	297.3	284.2	274.7	266.0	258.7	248.5	242.7
35°	295.9	290.8	279.8	282.7	276.2	265.3	255.0	248.5	241.9	233.2	227.4
37.5°	273.3	268.2	263.8	260.9	250.7	245.6	236.8	231.0	225.2	217.9	212.8
40°	250.7	246.3	242.7	240.5	236.1	226.6	220.1	215.0	209.1	203.3	198.9
42.5°	225.9	225.2	223.0	220.8	217.2	209.1	203.3	198.9	194.6	189.5	185.8
45°	209.9	206.2	204.0	201.9	198.9	191.7	188.0	184.4	180.7	176.3	172.7
47.5°	190.9	188.0	186.5	185.1	182.2	175.6	172.7	169.8	166.9	163.2	161.0
50°	174.2	172.0	169.8	168.3	166.9	161.8	159.6	160.3	154.5	151.6	150.1
52.5°	158.9	156.7	155.2	153.8	152.3	148.7	146.5	144.3	142.8	139.9	138.5
55°	144.3	142.1	140.6	139.9	141.4	135.5	134.1	132.6	131.2	129.0	129.0
57.5°	131.2	129.0	128.3	128.3	126.8	123.9	122.4	121.7	120.2	118.8	118.1
60°	119.5	117.3	115.9	116.6	115.1	112.2	114.4	110.0	110.0	108.6	107.8
62.5°	107.1	105.7	104.9	104.9	103.5	102.0	101.3	100.6	99.8	99.1	98.4
65°	96.2	94.7	94.0	94.0	93.3	91.1	90.4	90.4	89.6	89.6	88.9
67.5°	85.3	83.8	83.8	83.8	83.1	81.6	80.9	80.9	80.2	80.2	79.4
70°	75.1	73.6	72.9	73.6	72.9	72.1	70.7	70.7	70.7	70.7	70.0
72.5°	64.9	64.1	63.4	64.1	63.4	61.9	61.2	62.7	61.2	61.2	60.5
75°	55.4	54.7	53.9	54.7	53.2	53.2	52.5	52.5	51.7	52.5	51.7
77.5°	45.9	45.2	45.2	45.2	44.5	43.7	43.0	43.7	43.0	43.0	43.0
80°	36.4	35.7	35.7	36.4	35.7	35.0	34.2	35.0	34.2	34.2	34.2
82.5°	27.7	27.0	27.0	27.7	27.0	26.2	25.5	26.2	26.2	25.5	26.2
85°	18.9	18.9	18.9	18.9	18.9	17.5	17.5	17.5	17.5	18.2	18.2
87.5°	10.9	10.9	10.9	10.9	10.9	10.2	9.5	10.2	10.2	10.2	10.2
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°	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0
2.5°	312.6	307.5	306.8	303.9	302.4	303.9	303.9	298.0	301.0	296.6	298.0
5°	319.2	311.9	310.4	306.1	303.1	303.1	302.4	295.9	297.3	291.5	291.5
7.5°	322.8	315.5	311.2	306.1	301.7	301.7	298.0	290.8	291.5	284.9	284.2
10°	323.5	314.8	309.7	303.9	298.0	295.9	292.9	284.2	283.5	276.9	276.2
12.5°	322.8	311.9	306.1	298.8	292.9	289.3	284.9	276.2	275.5	268.2	266.0
15°	318.4	306.8	300.2	291.5	284.2	280.6	276.2	267.4	266.0	258.0	256.5
17.5°	311.9	298.8	292.2	283.5	275.5	271.1	266.7	257.2	255.8	254.3	246.3
20°	301.7	289.3	281.3	272.5	265.3	260.1	255.8	247.0	244.8	237.6	236.1
22.5°	290.8	279.1	271.1	262.3	255.0	248.5	244.8	236.8	234.6	227.4	225.9
25°	278.4	266.7	258.7	249.9	243.4	238.3	233.9	225.9	224.4	217.2	215.7
27.5°	264.5	253.6	246.3	238.3	231.7	227.4	223.0	215.0	214.2	207.7	206.2
30°	251.4	240.5	234.6	225.9	219.3	216.4	212.1	204.8	204.0	198.2	196.8
32.5°	236.8	227.4	220.8	214.2	208.4	205.5	201.9	194.6	193.8	188.7	187.3
35°	222.3	213.5	208.4	202.6	196.8	194.6	191.7	188.0	183.6	179.3	178.5
37.5°	209.1	201.1	196.8	190.9	185.8	183.6	180.7	174.9	174.2	170.5	170.5
40°	196.0	188.7	185.1	180.0	175.6	173.4	171.2	166.1	165.4	161.8	161.8
42.5°	182.9	177.1	173.4	172.7	165.4	163.2	161.8	157.4	156.7	153.0	153.8
45°	171.2	165.4	162.5	159.6	155.2	153.8	152.3	147.9	148.7	145.0	145.7
47.5°	159.6	154.5	152.3	149.4	145.7	144.3	143.6	139.9	139.9	136.3	137.0
50°	148.7	144.3	142.1	139.2	136.3	136.3	134.8	131.2	131.9	129.0	129.0
52.5°	138.5	134.1	132.6	129.7	127.5	127.5	126.8	123.2	123.2	121.0	121.0
55°	128.3	124.6	123.2	121.0	118.8	118.1	117.3	114.4	115.1	113.0	113.0
57.5°	117.3	114.4	113.7	111.5	110.0	109.3	108.6	105.7	106.4	104.9	104.9
60°	107.1	104.9	104.2	102.7	100.6	100.6	99.8	97.6	98.4	96.2	96.9
62.5°	97.6	94.0	94.7	95.5	92.5	92.5	91.8	89.6	89.6	88.2	88.9
65°	88.2	85.3	86.0	85.3	83.8	83.8	83.1	80.9	81.6	80.2	80.2
67.5°	78.7	78.0	77.2	76.5	76.5	75.1	74.3	72.1	72.9	71.4	72.1
70°	70.0	68.5	68.5	67.0	65.6	66.3	65.6	64.1	64.9	63.4	64.1
72.5°	61.2	59.8	59.8	58.3	57.6	57.6	56.8	55.4	56.1	55.4	55.4
75°	52.5	51.0	50.3	50.3	49.6	48.8	48.8	47.4	48.1	46.6	47.4
77.5°	43.0	42.3	42.3	41.5	40.8	40.8	40.1	39.4	39.4	38.6	38.6
80°	34.2	34.2	33.5	32.8	32.8	32.8	32.1	31.3	31.3	30.6	30.6
82.5°	26.2	25.5	25.5	25.5	24.8	24.0	24.0	23.3	23.3	23.3	22.6
85°	18.2	17.5	17.5	16.8	16.8	16.8	16.0	15.3	15.3	15.3	15.3
87.5°	10.2	9.5	9.5	9.5	8.7	9.5	8.7	8.0	8.0	8.0	8.0
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°	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0
2.5°	296.6	297.3	295.9	293.7	293.7	291.5	292.9	291.5	292.2	289.3	287.8
5°	290.0	290.0	287.1	284.2	283.5	281.3	281.3	279.8	279.8	276.9	274.7
7.5°	281.3	281.3	277.6	274.7	273.3	269.6	269.6	268.2	268.2	264.5	263.1
10°	272.5	271.8	266.7	264.5	262.3	258.7	258.7	257.2	256.5	252.9	252.1
12.5°	263.1	261.6	257.2	253.6	251.4	248.5	247.8	245.6	245.6	241.9	240.5
15°	252.9	251.4	247.0	243.4	241.2	237.6	236.8	235.4	234.6	231.0	230.3
17.5°	242.7	240.5	236.8	233.2	231.0	228.1	227.4	225.2	224.4	221.5	220.8
20°	232.5	231.0	226.6	223.0	221.5	218.6	217.2	215.0	215.0	212.1	210.6
22.5°	223.0	220.8	216.4	214.2	212.1	209.1	208.4	207.0	206.2	203.3	202.6
25°	213.5	211.3	207.7	204.8	207.0	200.4	198.9	198.2	197.5	194.6	193.8
27.5°	204.0	202.6	198.2	196.0	193.8	191.7	190.9	189.5	189.5	187.3	186.5
30°	193.8	193.8	189.5	188.0	185.8	183.6	183.6	181.4	181.4	179.3	178.5
32.5°	185.8	185.1	181.4	179.3	177.8	175.6	175.6	174.2	174.2	172.0	171.2
35°	177.1	176.3	172.7	171.2	169.8	167.6	168.3	166.9	166.1	164.7	164.7
37.5°	169.1	168.3	164.7	163.2	161.8	160.3	160.3	159.6	158.9	156.7	156.7
40°	160.3	161.8	156.7	155.9	153.8	152.3	153.0	151.6	151.6	150.1	150.1
42.5°	151.6	151.6	149.4	147.9	146.5	145.7	145.7	144.3	144.3	142.8	142.8
45°	144.3	144.3	141.4	143.6	139.2	138.5	138.5	137.0	137.0	135.5	135.5
47.5°	136.3	136.3	134.1	132.6	131.9	131.2	131.2	129.7	129.7	128.3	128.3
50°	129.0	129.0	126.8	125.3	124.6	123.9	123.9	122.4	122.4	121.0	121.7
52.5°	121.0	120.2	118.8	118.1	117.3	118.8	116.6	115.9	115.1	114.4	114.4
55°	112.2	113.0	111.5	110.8	109.3	111.5	108.6	108.6	107.8	106.4	107.1
57.5°	106.4	104.9	103.5	102.7	102.0	101.3	101.3	100.6	100.6	99.1	99.8
60°	96.2	96.9	95.5	94.7	94.0	93.3	93.3	92.5	92.5	91.8	91.8
62.5°	88.2	88.9	87.4	86.7	86.0	85.3	85.3	84.5	84.5	83.8	83.8
65°	80.2	80.2	79.4	78.7	78.0	77.2	77.2	77.2	76.5	76.5	76.5
67.5°	72.1	72.1	71.4	70.7	70.0	70.0	69.2	68.5	68.5	68.5	68.5
70°	63.4	63.4	63.4	62.7	61.9	61.9	61.2	60.5	60.5	60.5	60.5
72.5°	55.4	55.4	55.4	54.7	53.9	53.9	53.2	52.5	52.5	52.5	52.5
75°	47.4	47.4	46.6	46.6	45.9	45.9	45.2	44.5	44.5	44.5	44.5
77.5°	39.4	39.4	39.4	38.6	37.9	37.9	37.2	36.4	36.4	37.2	36.4
80°	30.6	31.3	31.3	30.6	29.9	29.9	29.1	29.1	28.4	29.1	29.1
82.5°	23.3	23.3	23.3	22.6	22.6	21.9	22.6	21.1	21.1	21.1	21.1
85°	16.0	16.0	16.0	15.3	14.6	14.6	14.6	13.8	13.1	13.8	13.8
87.5°	8.7	8.0	8.0	8.0	8.0	7.3	7.3	7.3	6.6	7.3	7.3
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):

	165°	170°	175°	180°
0°	301.0	301.0	301.0	301.0
2.5°	290.0	290.0	291.5	287.1
5°	276.2	276.9	278.4	274.0
7.5°	263.8	264.5	265.3	260.9
10°	251.4	252.9	253.6	249.2
12.5°	239.0	241.2	242.7	239.0
15°	230.3	230.3	231.7	228.1
17.5°	220.1	220.8	221.5	218.6
20°	210.6	211.3	212.1	209.1
22.5°	201.9	203.3	203.3	201.1
25°	193.8	194.6	195.3	193.1
27.5°	185.8	186.5	187.3	185.1
30°	178.5	180.7	179.3	177.8
32.5°	171.2	172.0	172.0	170.5
35°	167.6	164.0	165.4	164.0
37.5°	155.9	156.7	157.4	155.9
40°	149.4	150.1	150.1	150.1
42.5°	142.8	142.1	143.6	142.8
45°	138.5	135.5	136.3	135.5
47.5°	128.3	128.3	129.0	129.0
50°	121.0	121.7	121.7	121.7
52.5°	113.7	114.4	115.1	115.1
55°	107.1	107.1	107.8	107.8
57.5°	99.1	99.1	99.8	99.8
60°	91.8	91.8	92.5	92.5
62.5°	83.8	83.8	84.5	84.5
65°	75.8	75.8	76.5	76.5
67.5°	68.5	68.5	68.5	69.2
70°	60.5	60.5	60.5	61.2
72.5°	52.5	52.5	53.2	53.2
75°	44.5	44.5	45.2	45.2
77.5°	36.4	36.4	37.2	37.9
80°	29.1	29.1	29.1	29.1
82.5°	21.1	21.1	21.9	22.6
85°	13.8	13.8	13.8	13.8
87.5°	7.3	7.3	7.3	8.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)