

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: P85551

Luminaire Tested: **ML709840ICAT120D-495PWW06-H750ICAT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P85551
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P21273)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML709840ICAT120D-495PWW06-H750ICAT
Description: HALO 6 INCH LED DOWNLIGHT WITH 900 Lmn MODULE, DIFFUSE LENS AND WHITE REFLECTOR WITH PLASTIC SPECULAR KICKER---ABSOLUTE PHOTOMETRY IS BASED ON CALIBRATION FACTORS CREATED USING A 500 WATT, NIST TRACEABLE, OMNI-DIRECTIONAL LAB LUMEN STANDARD IN THE GONIOPHOTOMETER WITH TEST DISTANCE OF 28.75 FEET----
Trim Cat.No.
Light Source: (1)SMT LED 4000K
CL-L241-C26L2-A
Ballast/Driver: (1)ELECTRONIC DRIVER
(1)RHPS311BL-CLO

Summary

Lumens per Lamp: 774 (1 lamp)
Luminaire Lumens: 774.9 lumens
Efficiency: 100.1%
Efficacy: 55.3 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.22 / 1.28
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')
CIE Type: Direct

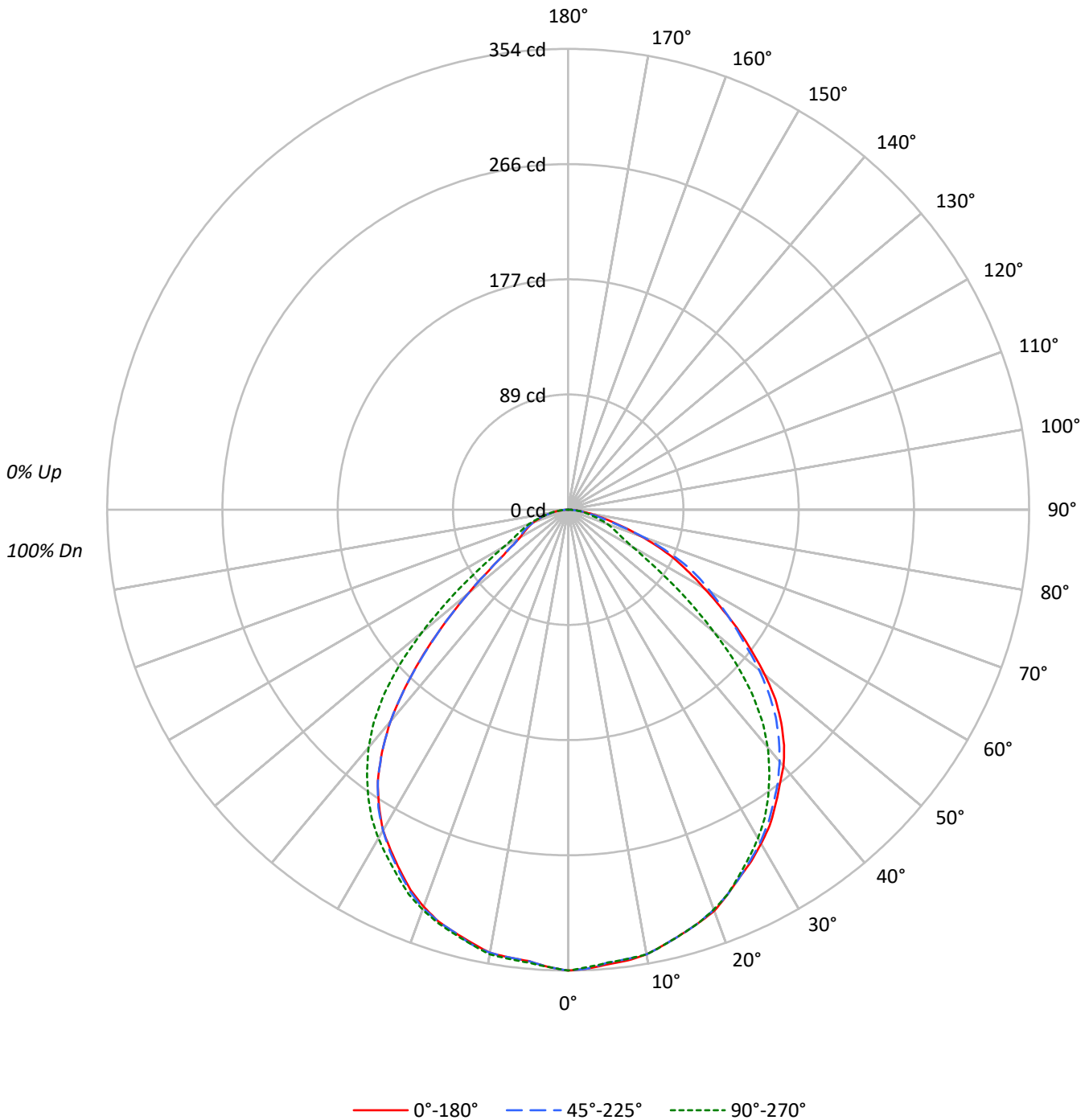
Input Watts (W): 14
Input Voltage (V): NR
Input Current (Ain): 0.12083
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	102	102	102	100					100			
1	111	106	103	99	108	104	101	98	100	97	95	96	94	92	93	91	89	87					87			
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75					75			
3	94	84	77	71	92	83	76	71	80	74	70	77	73	68	75	71	67	65					65			
4	87	76	68	62	84	75	67	61	72	66	61	70	64	60	68	63	59	57					57			
5	80	68	60	54	78	67	60	54	65	59	53	63	58	53	62	56	52	50					50			
6	74	62	54	48	73	61	53	48	60	53	47	58	52	47	56	51	47	45					45			
7	69	57	49	43	68	56	48	43	55	48	42	53	47	42	52	46	42	40					40			
8	65	52	44	39	63	51	44	39	50	43	38	49	43	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	40	35	45	39	35	44	39	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	21131	21131	21131
5°	20524	20454	20384
10°	20085	20085	20016
15°	19470	19470	19401
20°	18998	18934	18795
25°	18254	18184	17908
30°	17700	17419	16995
35°	17037	16459	15661
40°	16387	15190	13533
45°	15426	13299	10464
50°	13901	10318	7074
55°	11927	7031	4541
60°	9843	4627	3475
65°	8178	3716	3185
70°	5952	3218	2855
75°	3821	2455	2327
80°	2262	1783	1618
85°	1204	1001	797



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	33.3	4.3	4.3
10°-20°	95.2	12.3	12.3
20°-30°	142.6	18.4	18.4
30°-40°	165.4	21.3	21.4
40°-50°	147.7	19.1	19.1
50°-60°	96.5	12.4	12.5
60°-70°	60.4	7.8	7.8
70°-80°	27.3	3.5	3.5
80°-90°	6.5	0.8	0.8
90°-100°	0.0	0.0	0.0
100°-110°	0.0	0.0	0.0
110°-120°	0.0	0.0	0.0
120°-130°	0.0	0.0	0.0
130°-140°	0.0	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-30°	271.0	35.0	35.0
0°-40°	436.5	56.3	56.4
0°-60°	680.6	87.8	87.9
0°-90°	774.9	100.0	100.1
90°-120°	0.0	0.0	0.0
90°-150°	0.0	0.0	0.0
90°-180°	0.0	0.0	0.0
0°-180°	774.9	100.0	100.1

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	354	354	354	354	354	
5°	350	349	349	348	348	33
15°	338	338	338	336	336	95
25°	312	312	310	307	306	144
35°	277	275	268	255	255	174
45°	231	225	199	156	157	177
55°	158	156	93	60	60	141
65°	91	98	41	37	35	89
75°	33	30	21	20	20	37
85°	7	6	6	5	5	8
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°	354.0	354.0	354.0	354.0	354.0	354.0	354.0	354.0	354.0	354.0	354.0
2.5°	352.8	352.8	352.8	352.8	352.8	352.8	352.8	352.8	352.8	352.8	352.8
5°	350.5	349.3	349.3	349.3	349.3	349.3	349.3	349.3	349.3	349.3	349.3
7.5°	349.3	348.1	348.1	348.1	348.1	348.1	348.1	348.1	348.1	348.1	348.1
10°	346.9	346.9	346.9	346.9	346.9	346.9	346.9	346.9	346.9	346.9	346.9
12.5°	342.2	342.2	342.2	342.2	342.2	342.2	342.2	342.2	342.2	342.2	342.2
15°	337.5	337.5	337.5	337.5	336.3	337.5	337.5	336.3	336.3	337.5	336.3
17.5°	332.8	332.8	332.8	332.8	332.8	332.8	332.8	332.8	332.8	332.8	332.8
20°	328.0	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9
22.5°	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8
25°	311.5	311.5	311.5	311.5	311.5	311.5	311.5	311.5	311.5	311.5	311.5
27.5°	304.4	303.3	303.3	304.4	303.3	303.3	303.3	303.3	303.3	303.3	303.3
30°	296.2	296.2	296.2	296.2	296.2	296.2	295.0	295.0	295.0	295.0	295.0
32.5°	287.9	286.7	286.7	286.7	286.7	286.7	286.7	286.7	285.6	285.6	285.6
35°	277.3	277.3	277.3	276.1	276.1	276.1	276.1	276.1	274.9	274.9	274.9
37.5°	266.7	266.7	266.7	266.7	265.5	265.5	265.5	265.5	264.3	264.3	263.1
40°	257.2	256.1	256.1	256.1	254.9	254.9	254.9	253.7	253.7	252.5	252.5
42.5°	245.4	244.3	244.3	244.3	243.1	243.1	241.9	241.9	240.7	239.5	239.5
45°	231.3	231.3	231.3	230.1	230.1	230.1	228.9	227.7	226.6	225.4	224.2
47.5°	215.9	215.9	214.8	214.8	213.6	213.6	212.4	211.2	210.0	208.9	207.7
50°	197.1	197.1	197.1	195.9	195.9	194.7	193.5	193.5	191.2	191.2	188.8
52.5°	177.0	177.0	177.0	177.0	175.8	175.8	175.8	174.6	173.5	172.3	171.1
55°	158.1	156.9	158.1	158.1	158.1	158.1	156.9	156.9	156.9	155.8	155.8
57.5°	138.1	138.1	139.2	139.2	139.2	140.4	140.4	140.4	140.4	140.4	140.4
60°	120.4	120.4	121.5	121.5	122.7	123.9	123.9	125.1	126.3	126.3	127.4
62.5°	105.0	105.0	106.2	106.2	107.4	108.6	109.7	110.9	112.1	113.3	113.3
65°	90.9	90.9	90.9	92.0	92.0	93.2	94.4	95.6	96.8	97.9	99.1
67.5°	75.5	75.5	75.5	75.5	75.5	76.7	76.7	77.9	79.1	80.2	81.4
70°	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	60.2	61.4	61.4
72.5°	44.8	44.8	43.7	43.7	43.7	43.7	42.5	42.5	42.5	42.5	43.7
75°	33.0	31.9	31.9	31.9	31.9	30.7	30.7	30.7	30.7	29.5	29.5
77.5°	23.6	23.6	22.4	22.4	22.4	22.4	21.2	21.2	21.2	21.2	20.1
80°	16.5	15.3	15.3	15.3	15.3	15.3	15.3	15.3	14.2	14.2	14.2
82.5°	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	9.4
85°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	5.9	5.9
87.5°	3.5	2.4	3.5	3.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4
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°	354.0	354.0	354.0	354.0	354.0	354.0	354.0	354.0	354.0	354.0	354.0
2.5°	352.8	352.8	352.8	351.6	352.8	351.6	351.6	351.6	351.6	351.6	351.6
5°	349.3	349.3	349.3	349.3	349.3	349.3	349.3	349.3	349.3	349.3	348.1
7.5°	348.1	348.1	348.1	348.1	348.1	348.1	348.1	348.1	348.1	348.1	348.1
10°	346.9	346.9	346.9	346.9	346.9	346.9	346.9	346.9	346.9	346.9	345.7
12.5°	341.0	342.2	342.2	342.2	342.2	342.2	342.2	342.2	342.2	342.2	342.2
15°	336.3	337.5	337.5	337.5	337.5	337.5	337.5	337.5	337.5	337.5	337.5
17.5°	332.8	332.8	332.8	332.8	332.8	332.8	332.8	332.8	332.8	332.8	332.8
20°	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9
22.5°	319.8	319.8	319.8	319.8	319.8	319.8	319.8	319.8	318.6	318.6	318.6
25°	311.5	311.5	311.5	311.5	310.3	310.3	310.3	310.3	310.3	309.2	309.2
27.5°	303.3	303.3	303.3	302.1	302.1	302.1	302.1	300.9	300.9	299.7	298.5
30°	295.0	295.0	293.8	293.8	293.8	292.6	292.6	291.5	290.3	289.1	289.1
32.5°	285.6	285.6	284.4	284.4	283.2	282.0	282.0	280.8	279.7	277.3	276.1
35°	274.9	273.8	273.8	272.6	271.4	270.2	269.0	267.9	265.5	264.3	262.0
37.5°	263.1	262.0	262.0	260.8	259.6	257.2	256.1	253.7	251.3	247.8	244.3
40°	251.3	250.2	249.0	247.8	245.4	244.3	240.7	238.4	234.8	230.1	225.4
42.5°	238.4	237.2	234.8	232.5	230.1	227.7	224.2	220.7	215.9	210.0	203.0
45°	223.0	221.8	219.5	215.9	212.4	208.9	204.1	199.4	193.5	185.3	177.0
47.5°	206.5	204.1	200.6	197.1	191.2	186.4	180.5	174.6	167.6	159.3	149.9
50°	187.6	185.3	180.5	174.6	167.6	160.5	153.4	146.3	139.2	131.0	122.7
52.5°	169.9	167.6	161.7	153.4	145.1	135.7	126.3	119.2	110.9	103.8	96.8
55°	154.6	151.0	145.1	134.5	123.9	112.1	101.5	93.2	87.3	80.2	74.3
57.5°	140.4	136.9	129.8	119.2	105.0	92.0	80.2	72.0	66.1	62.5	57.8
60°	127.4	123.9	116.8	106.2	92.0	76.7	64.9	56.6	51.9	49.6	47.2
62.5°	114.5	112.1	105.0	94.4	81.4	67.3	55.5	47.2	43.7	41.3	41.3
65°	99.1	97.9	92.0	82.6	70.8	57.8	48.4	41.3	38.9	37.8	36.6
67.5°	81.4	81.4	76.7	69.6	59.0	49.6	41.3	36.6	34.2	33.0	33.0
70°	62.5	62.5	60.2	54.3	47.2	40.1	34.2	31.9	29.5	29.5	29.5
72.5°	43.7	43.7	43.7	40.1	36.6	31.9	28.3	26.0	26.0	24.8	24.8
75°	29.5	29.5	29.5	28.3	27.1	24.8	22.4	21.2	21.2	21.2	21.2
77.5°	20.1	20.1	20.1	20.1	18.9	17.7	17.7	16.5	16.5	16.5	16.5
80°	14.2	14.2	14.2	14.2	14.2	13.0	13.0	13.0	13.0	13.0	13.0
82.5°	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	8.3
85°	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	4.7
87.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
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°	354.0	354.0	354.0	354.0	354.0	354.0	354.0	354.0	354.0	354.0	354.0
2.5°	351.6	351.6	351.6	351.6	351.6	351.6	351.6	351.6	351.6	351.6	351.6
5°	348.1	348.1	348.1	348.1	348.1	348.1	348.1	348.1	348.1	348.1	348.1
7.5°	348.1	348.1	346.9	346.9	346.9	346.9	346.9	346.9	346.9	346.9	346.9
10°	346.9	346.9	345.7	345.7	345.7	345.7	345.7	345.7	345.7	345.7	345.7
12.5°	342.2	342.2	342.2	342.2	342.2	342.2	342.2	342.2	341.0	342.2	342.2
15°	337.5	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3
17.5°	332.8	332.8	331.6	331.6	331.6	331.6	331.6	331.6	331.6	331.6	331.6
20°	325.7	325.7	325.7	325.7	325.7	325.7	324.5	325.7	324.5	324.5	324.5
22.5°	318.6	318.6	317.4	317.4	317.4	317.4	317.4	316.2	316.2	316.2	316.2
25°	308.0	308.0	308.0	308.0	306.8	306.8	306.8	306.8	306.8	306.8	305.6
27.5°	298.5	298.5	297.4	297.4	296.2	296.2	296.2	296.2	295.0	296.2	295.0
30°	287.9	286.7	285.6	285.6	285.6	284.4	284.4	284.4	284.4	284.4	284.4
32.5°	274.9	273.8	272.6	272.6	271.4	271.4	271.4	271.4	270.2	271.4	270.2
35°	259.6	258.4	256.1	256.1	254.9	254.9	254.9	254.9	253.7	254.9	254.9
37.5°	241.9	239.5	237.2	236.0	234.8	234.8	234.8	234.8	234.8	234.8	234.8
40°	220.7	217.1	214.8	212.4	212.4	212.4	212.4	212.4	212.4	212.4	212.4
42.5°	195.9	191.2	187.6	185.3	185.3	185.3	185.3	185.3	185.3	185.3	185.3
45°	169.9	162.8	159.3	156.9	155.8	155.8	155.8	155.8	155.8	156.9	156.9
47.5°	141.6	134.5	129.8	127.4	127.4	127.4	126.3	127.4	127.4	127.4	127.4
50°	114.5	107.4	102.7	100.3	100.3	100.3	100.3	100.3	100.3	100.3	100.3
52.5°	88.5	83.8	80.2	77.9	77.9	76.7	76.7	76.7	77.9	77.9	77.9
55°	68.4	63.7	61.4	60.2	60.2	60.2	60.2	60.2	60.2	60.2	60.2
57.5°	54.3	51.9	50.7	49.6	49.6	49.6	49.6	49.6	49.6	49.6	49.6
60°	46.0	44.8	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7
62.5°	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.1	38.9	38.9	38.9
65°	36.6	36.6	36.6	36.6	36.6	36.6	36.6	35.4	35.4	35.4	35.4
67.5°	33.0	33.0	33.0	33.0	33.0	33.0	33.0	31.9	31.9	31.9	31.9
70°	29.5	29.5	29.5	28.3	28.3	28.3	28.3	28.3	28.3	28.3	28.3
72.5°	24.8	24.8	24.8	24.8	24.8	24.8	23.6	23.6	23.6	23.6	23.6
75°	21.2	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1
77.5°	16.5	16.5	16.5	16.5	15.3	15.3	15.3	15.3	15.3	15.3	15.3
80°	13.0	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
82.5°	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
85°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
87.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
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°	354.0	354.0	354.0	354.0
2.5°	351.6	351.6	351.6	351.6
5°	348.1	348.1	348.1	348.1
7.5°	346.9	346.9	346.9	346.9
10°	345.7	345.7	345.7	345.7
12.5°	341.0	341.0	341.0	341.0
15°	336.3	336.3	336.3	336.3
17.5°	331.6	331.6	331.6	331.6
20°	324.5	324.5	324.5	324.5
22.5°	316.2	316.2	316.2	316.2
25°	305.6	305.6	306.8	305.6
27.5°	295.0	295.0	295.0	295.0
30°	284.4	284.4	284.4	284.4
32.5°	270.2	270.2	270.2	270.2
35°	253.7	254.9	253.7	254.9
37.5°	234.8	234.8	234.8	234.8
40°	212.4	212.4	212.4	212.4
42.5°	185.3	185.3	185.3	185.3
45°	156.9	156.9	156.9	156.9
47.5°	127.4	127.4	127.4	127.4
50°	100.3	100.3	100.3	100.3
52.5°	77.9	77.9	76.7	76.7
55°	60.2	60.2	60.2	60.2
57.5°	49.6	49.6	48.4	49.6
60°	43.7	42.5	42.5	42.5
62.5°	38.9	38.9	38.9	38.9
65°	35.4	35.4	35.4	35.4
67.5°	31.9	31.9	31.9	31.9
70°	28.3	28.3	28.3	28.3
72.5°	23.6	23.6	23.6	23.6
75°	20.1	20.1	20.1	20.1
77.5°	15.3	15.3	15.3	15.3
80°	11.8	11.8	11.8	11.8
82.5°	8.3	8.3	8.3	8.3
85°	4.7	4.7	4.7	4.7
87.5°	2.4	2.4	2.4	2.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)