

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P331631-930

Luminaire Tested: **SA2XXRDIP-C290D725U930-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331631-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C290D725U930-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 725 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

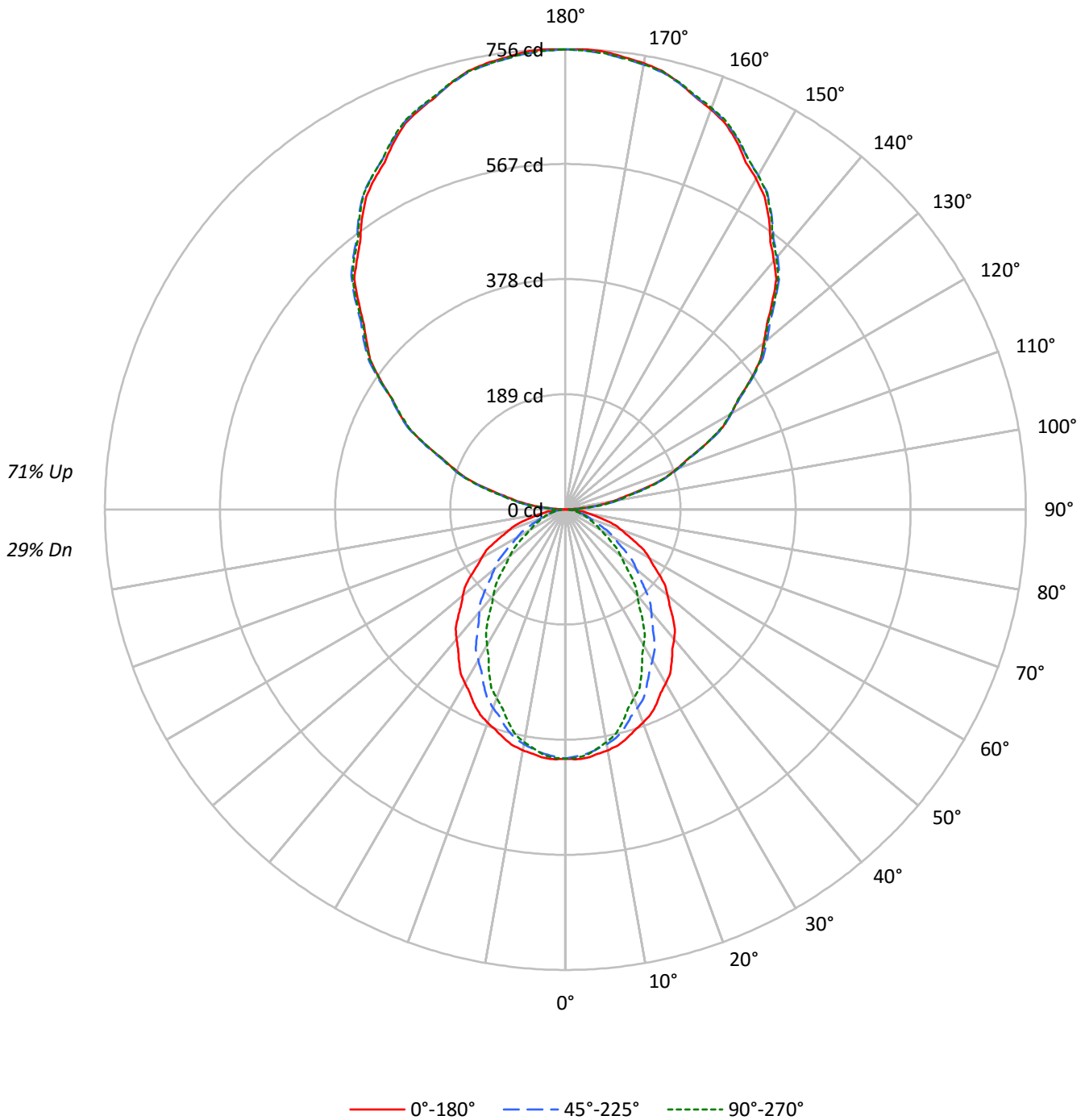
Lumens per Lamp: N/A
Luminaire Lumens: 2956.4 lumens
Efficiency: N/A
Efficacy: 94.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 31.2
Input Voltage (V): 120
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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	29
1	93	89	85	82	83	80	77	74	63	61	59	47	46	45	33	32	31	25
2	85	78	72	67	76	70	65	61	55	52	49	42	40	38	29	28	27	21
3	78	69	62	56	69	62	56	51	49	45	42	37	34	32	26	24	23	18
4	71	61	54	48	64	55	49	44	44	39	36	33	30	28	23	21	20	16
5	65	54	47	41	58	49	42	38	39	34	31	30	27	24	21	19	18	14
6	60	49	41	35	54	44	37	33	35	30	27	27	24	21	19	17	16	12
7	56	44	36	31	50	40	33	29	32	27	24	25	21	19	18	16	14	11
8	51	40	32	27	46	36	30	25	29	24	21	22	19	17	16	14	13	10
9	48	36	29	24	43	33	27	22	27	22	19	21	17	15	15	13	11	9
10	45	33	26	22	40	30	24	20	24	20	17	19	16	14	14	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6608	6608	6608
5°	6634	6525	6561
10°	6583	6419	6365
15°	6506	6228	6048
20°	6402	5957	5658
25°	6296	5649	5279
30°	6145	5330	4793
35°	6000	4987	4366
40°	5855	4628	3872
45°	5683	4229	3425
50°	5506	3823	2987
55°	5326	3386	2567
60°	5118	2929	2131
65°	4883	2460	1937
70°	4598	2030	1780
75°	4255	1847	1666
80°	3756	1655	1516
85°	2946	1297	1297



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.3	1.3
10°-20°	105.2	3.6
20°-30°	147.7	5.0
30°-40°	161.1	5.4
40°-50°	148.1	5.0
50°-60°	116.3	3.9
60°-70°	75.8	2.6
70°-80°	39.1	1.3
80°-90°	13.2	0.4
90°-100°	47.9	1.6
100°-110°	148.6	5.0
110°-120°	254.0	8.6
120°-130°	334.1	11.3
130°-140°	375.0	12.7
140°-150°	367.7	12.4
150°-160°	308.4	10.4
160°-170°	204.5	6.9
170°-180°	71.5	2.4
0°-30°	291.2	9.8
0°-40°	452.3	15.3
0°-60°	716.7	24.2
0°-90°	844.7	28.6
90°-120°	450.5	15.2
90°-150°	1527.2	51.7
90°-180°	2112.0	71.4
0°-180°	2956.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	409	409	409	409	409	
5°	409	407	403	406	405	39
15°	389	385	373	366	362	110
25°	353	341	317	302	296	162
35°	304	285	253	230	222	190
45°	249	223	185	160	150	192
55°	189	160	120	99	91	169
65°	128	98	64	52	51	127
75°	68	43	30	27	27	72
85°	16	8	7	7	7	19
90°	1	9	22	21	22	2
95°	33	39	41	41	40	38
105°	137	139	140	141	142	145
115°	255	258	258	257	255	252
125°	371	376	375	373	372	331
135°	480	487	488	487	486	371
145°	582	587	591	591	589	364
155°	666	668	670	673	671	306
165°	725	724	724	728	725	204
175°	754	752	751	755	751	72
180°	755	755	755	755	755	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3
2.5°	410.7	410.4	410.1	409.8	409.4	408.9	408.1	407.5	406.8	406.0	406.7
5°	409.3	408.9	408.5	408.1	407.6	406.8	405.8	404.7	403.7	402.6	403.3
7.5°	405.0	404.6	404.0	403.5	403.0	402.1	400.9	399.6	398.4	397.1	397.3
10°	401.5	400.9	400.3	399.7	399.2	398.0	396.4	394.8	393.1	391.5	391.3
12.5°	397.1	396.3	395.6	394.9	394.2	392.8	390.7	388.6	386.5	384.3	383.9
15°	389.2	388.3	387.4	386.5	385.6	383.8	381.0	378.2	375.4	372.6	371.0
17.5°	379.7	378.3	376.9	375.5	374.1	371.7	368.1	364.5	360.9	357.3	355.5
20°	372.6	371.0	369.3	367.6	366.0	363.1	359.0	354.9	350.8	346.7	344.6
22.5°	364.9	363.1	361.2	359.4	357.5	354.2	349.6	345.0	340.4	335.7	333.0
25°	353.4	350.7	348.1	345.4	342.8	338.8	333.3	327.9	322.5	317.1	313.6
27.5°	339.4	336.6	333.7	330.8	327.9	323.4	317.3	311.2	305.1	299.0	295.1
30°	329.6	326.5	323.3	320.2	317.2	312.3	305.7	299.1	292.5	285.9	281.8
32.5°	320.2	316.5	312.8	309.2	305.5	300.4	293.7	286.9	280.2	273.5	268.7
35°	304.4	300.3	296.0	291.9	287.6	281.9	274.7	267.4	260.2	253.0	247.8
37.5°	288.8	284.1	279.5	274.9	270.3	264.2	256.4	248.7	241.0	233.3	227.6
40°	277.8	272.9	267.9	262.9	258.0	251.6	243.6	235.6	227.6	219.6	213.8
42.5°	266.5	261.3	256.1	250.9	245.7	239.0	230.7	222.5	214.3	206.0	200.0
45°	248.9	243.4	237.8	232.4	226.8	219.7	211.1	202.4	193.8	185.2	179.4
47.5°	231.7	225.8	220.0	214.2	208.3	201.0	192.0	183.1	174.1	165.3	159.5
50°	219.2	213.4	207.6	201.7	195.9	188.4	179.4	170.3	161.3	152.2	146.5
52.5°	207.1	201.0	194.9	188.8	182.7	175.2	166.3	157.5	148.6	139.7	134.3
55°	189.2	182.9	176.4	170.0	163.5	156.0	147.0	138.1	129.2	120.3	115.4
57.5°	171.0	164.4	157.8	151.2	144.6	137.1	128.5	120.0	111.5	102.9	98.3
60°	158.5	152.0	145.4	138.8	132.2	124.7	116.2	107.7	99.2	90.7	86.5
62.5°	146.3	139.8	133.2	126.6	120.0	112.7	104.6	96.5	88.5	80.4	76.4
65°	127.8	121.1	114.5	107.8	101.1	94.1	86.7	79.2	71.8	64.4	61.6
67.5°	109.8	103.2	96.6	90.0	83.4	76.7	70.0	63.4	56.7	50.1	48.8
70°	97.4	91.0	84.5	78.2	71.7	65.7	60.0	54.3	48.7	43.0	42.2
72.5°	85.5	79.4	73.2	67.1	60.9	55.6	51.0	46.5	41.9	37.3	36.6
75°	68.2	62.4	56.7	50.9	45.1	40.8	38.0	35.2	32.4	29.6	29.0
77.5°	51.0	46.0	40.9	35.9	30.8	27.6	26.3	24.9	23.6	22.3	21.9
80°	40.4	36.2	32.0	27.8	23.6	21.0	20.2	19.4	18.6	17.8	17.4
82.5°	30.6	27.3	24.1	20.8	17.5	15.6	15.0	14.4	13.9	13.4	13.1
85°	15.9	14.2	12.5	10.8	9.0	8.0	7.7	7.5	7.3	7.0	7.0
87.5°	4.9	4.6	4.5	4.3	4.2	4.3	5.0	5.6	6.2	6.8	6.7
90°	0.7	2.4	4.1	5.7	7.4	9.9	13.0	16.1	19.2	22.3	22.0
92.5°	11.3	12.6	13.9	15.1	16.3	17.3	18.0	18.8	19.6	20.3	20.3
95°	33.1	34.6	36.0	37.4	38.8	39.6	39.9	40.2	40.5	40.8	40.8
97.5°	60.6	61.8	63.0	64.2	65.6	66.4	66.9	67.5	68.0	68.6	68.6
100°	81.0	82.1	83.2	84.3	85.4	86.3	86.7	87.1	87.5	88.0	88.0
102.5°	102.3	103.2	104.2	105.1	106.0	106.7	107.2	107.8	108.3	108.8	108.9
105°	137.1	137.5	137.9	138.3	138.7	139.1	139.3	139.7	139.9	140.2	140.5
107.5°	171.9	172.6	173.2	173.8	174.4	174.7	174.7	174.7	174.7	174.7	174.9
110°	194.4	195.2	196.1	196.9	197.8	198.2	198.2	198.2	198.2	198.2	198.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	218.8	219.7	220.5	221.4	222.3	222.6	222.5	222.4	222.3	222.2	221.8
115°	254.9	255.8	256.6	257.5	258.3	258.6	258.3	258.0	257.7	257.5	257.3
117.5°	290.8	292.0	293.1	294.2	295.4	295.5	294.7	294.0	293.2	292.4	292.0
120°	314.8	315.9	317.1	318.2	319.4	319.4	318.2	317.1	315.9	314.8	314.8
122.5°	336.7	338.1	339.5	340.8	342.2	342.4	341.7	340.9	340.1	339.2	338.9
125°	370.9	372.2	373.4	374.7	376.0	376.4	376.0	375.5	375.1	374.7	374.3
127.5°	404.1	405.8	407.4	409.0	410.6	411.2	410.7	410.2	409.6	409.1	408.6
130°	425.1	426.9	428.8	430.6	432.4	433.2	432.9	432.6	432.4	432.1	431.8
132.5°	448.5	450.0	451.5	453.0	454.5	455.3	455.3	455.4	455.4	455.5	454.9
135°	479.9	481.4	483.0	484.5	486.1	487.0	487.3	487.5	487.9	488.1	488.0
137.5°	512.9	514.1	515.4	516.7	518.0	518.8	519.2	519.5	519.9	520.2	520.2
140°	532.8	534.0	535.3	536.5	537.9	538.8	539.6	540.3	541.0	541.7	541.7
142.5°	553.2	554.4	555.7	557.0	558.2	559.1	559.6	560.1	560.6	561.1	561.2
145°	582.4	583.4	584.5	585.5	586.4	587.3	588.2	589.1	589.9	590.8	590.9
147.5°	608.6	609.8	611.0	612.1	613.3	614.2	614.8	615.4	616.0	616.5	616.8
150°	626.5	627.3	628.1	629.0	629.8	630.6	631.1	631.7	632.3	632.8	633.2
152.5°	642.2	643.1	643.9	644.8	645.6	646.4	647.1	647.8	648.4	649.1	649.6
155°	665.9	666.3	666.8	667.2	667.6	668.1	668.5	669.0	669.4	669.8	670.5
157.5°	686.2	686.5	686.8	687.1	687.4	687.6	687.9	688.1	688.4	688.6	689.6
160°	698.5	698.7	699.0	699.3	699.6	699.8	699.9	700.1	700.3	700.3	701.2
162.5°	709.6	709.7	709.8	709.8	709.9	710.0	710.1	710.3	710.5	710.5	711.5
165°	724.6	724.5	724.3	724.1	724.0	723.9	723.9	723.9	723.9	723.9	725.0
167.5°	737.0	736.6	736.2	735.8	735.4	735.2	735.2	735.1	735.1	735.0	736.1
170°	743.7	743.3	742.8	742.4	742.0	741.7	741.6	741.4	741.3	741.1	742.2
172.5°	748.3	747.9	747.5	747.0	746.6	746.3	746.2	746.0	745.9	745.8	746.7
175°	753.9	753.5	753.0	752.6	752.2	751.9	751.5	751.3	751.0	750.7	751.7
177.5°	756.2	755.9	755.5	755.1	754.8	754.6	754.3	754.1	753.8	753.7	754.3
180°	755.1	755.1	755.1	755.1	755.1	755.1	755.1	755.1	755.1	755.1	755.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	409.3	409.3	409.3	409.3	409.3	409.3	409.3	409.3
2.5°	407.3	408.0	408.6	408.9	408.8	408.6	408.5	408.4
5°	404.1	404.8	405.5	405.8	405.5	405.3	405.0	404.8
7.5°	397.5	397.8	397.9	397.9	397.5	397.0	396.6	396.2
10°	391.0	390.8	390.5	390.1	389.6	389.1	388.7	388.2
12.5°	383.5	383.0	382.6	382.0	381.2	380.3	379.5	378.7
15°	369.5	367.9	366.3	365.2	364.4	363.5	362.6	361.8
17.5°	353.6	351.7	349.9	348.3	346.8	345.4	344.0	342.6
20°	342.6	340.5	338.4	336.5	334.7	332.9	331.1	329.3
22.5°	330.4	327.8	325.1	323.1	321.7	320.4	319.0	317.7
25°	310.3	306.9	303.5	301.3	300.0	298.7	297.5	296.3
27.5°	291.1	287.1	283.2	280.3	278.3	276.4	274.4	272.5
30°	277.5	273.4	269.1	266.0	263.7	261.5	259.3	257.1
32.5°	263.9	259.1	254.3	250.9	248.8	246.7	244.6	242.6
35°	242.6	237.4	232.2	228.7	226.9	225.1	223.3	221.5
37.5°	221.8	216.1	210.4	206.5	204.5	202.4	200.3	198.2
40°	208.0	202.1	196.2	192.2	190.1	188.0	185.8	183.7
42.5°	193.9	187.8	181.8	177.8	175.7	173.7	171.5	169.5
45°	173.5	167.6	161.8	157.9	156.0	153.9	152.0	150.0
47.5°	153.6	147.8	142.0	138.2	136.4	134.6	132.8	131.0
50°	140.9	135.2	129.5	125.8	124.1	122.4	120.6	118.9
52.5°	128.8	123.4	117.9	114.3	112.8	111.1	109.5	107.9
55°	110.5	105.6	100.6	97.3	95.8	94.2	92.7	91.2
57.5°	93.8	89.3	84.8	81.9	80.6	79.2	77.9	76.6
60°	82.3	78.2	73.9	71.2	69.9	68.6	67.3	66.0
62.5°	72.4	68.4	64.4	62.0	61.1	60.4	59.6	58.8
65°	58.9	56.0	53.2	51.7	51.4	51.2	51.0	50.7
67.5°	47.5	46.2	44.9	44.2	43.9	43.6	43.4	43.1
70°	41.3	40.5	39.7	39.1	38.7	38.4	38.1	37.7
72.5°	36.0	35.2	34.6	34.2	33.9	33.8	33.5	33.3
75°	28.5	27.9	27.3	27.0	26.9	26.8	26.7	26.7
77.5°	21.5	21.2	20.9	20.7	20.5	20.4	20.3	20.1
80°	17.1	16.8	16.5	16.3	16.3	16.3	16.3	16.3
82.5°	13.0	12.7	12.6	12.5	12.5	12.5	12.5	12.5
85°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
87.5°	6.6	6.4	6.4	6.3	6.4	6.4	6.4	6.4
90°	21.8	21.4	21.2	21.1	21.3	21.4	21.5	21.7
92.5°	20.4	20.5	20.5	20.5	20.5	20.6	20.6	20.6
95°	40.8	40.8	40.8	40.7	40.4	40.1	39.8	39.5
97.5°	68.6	68.6	68.6	68.6	68.6	68.5	68.5	68.4
100°	88.0	88.0	88.0	87.9	87.7	87.6	87.5	87.3
102.5°	109.1	109.2	109.3	109.3	109.2	109.0	108.8	108.7
105°	140.8	141.0	141.4	141.5	141.5	141.5	141.5	141.5
107.5°	175.0	175.0	175.2	175.0	174.3	173.7	173.0	172.4
110°	198.2	198.2	198.2	198.0	197.5	197.1	196.7	196.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	221.4	221.1	220.8	220.5	220.1	219.8	219.6	219.2
115°	257.1	257.1	256.9	256.6	256.2	255.8	255.4	254.9
117.5°	291.7	291.4	291.0	290.7	290.2	289.8	289.3	288.9
120°	314.8	314.8	314.8	314.6	314.1	313.7	313.3	312.9
122.5°	338.6	338.3	337.9	337.6	337.3	337.0	336.6	336.4
125°	373.9	373.4	373.0	372.8	372.6	372.4	372.3	372.2
127.5°	408.1	407.6	407.1	406.6	406.2	405.7	405.3	404.8
130°	431.5	431.2	431.0	430.5	429.9	429.4	428.8	428.3
132.5°	454.3	453.6	453.1	452.5	452.0	451.6	451.1	450.7
135°	487.9	487.7	487.5	487.3	486.9	486.5	486.0	485.6
137.5°	520.1	519.9	519.8	519.5	518.9	518.4	517.8	517.2
140°	541.7	541.7	541.7	541.4	540.9	540.3	539.7	539.2
142.5°	561.3	561.4	561.5	561.3	560.7	560.1	559.6	559.1
145°	591.0	591.2	591.3	591.1	590.5	590.0	589.4	588.8
147.5°	617.1	617.4	617.8	617.7	617.1	616.5	616.0	615.5
150°	633.7	634.1	634.5	634.5	634.1	633.7	633.2	632.8
152.5°	650.2	650.8	651.3	651.3	650.8	650.2	649.6	649.1
155°	671.2	671.9	672.6	672.8	672.3	671.9	671.5	671.1
157.5°	690.6	691.5	692.5	692.6	691.9	691.3	690.6	689.9
160°	702.1	703.0	703.8	703.9	703.4	702.8	702.2	701.6
162.5°	712.5	713.5	714.4	714.5	713.9	713.2	712.5	711.8
165°	725.9	726.9	727.9	728.1	727.3	726.6	725.9	725.2
167.5°	737.0	738.0	739.0	739.2	738.4	737.7	736.9	736.2
170°	743.1	744.1	745.1	745.2	744.4	743.5	742.7	741.8
172.5°	747.7	748.7	749.7	749.7	748.9	748.0	747.2	746.4
175°	752.7	753.7	754.6	754.7	753.9	753.0	752.2	751.4
177.5°	755.0	755.7	756.4	756.4	755.7	755.0	754.3	753.7
180°	755.1	755.1	755.1	755.1	755.1	755.1	755.1	755.1

(END OF REPORT)