

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: P332280-830

Luminaire Tested: **S123RDIP-S560D585U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332280-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123RDIP-S560D585U830-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3909.3 lumens  
Efficiency: N/A  
Efficacy: 119.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse

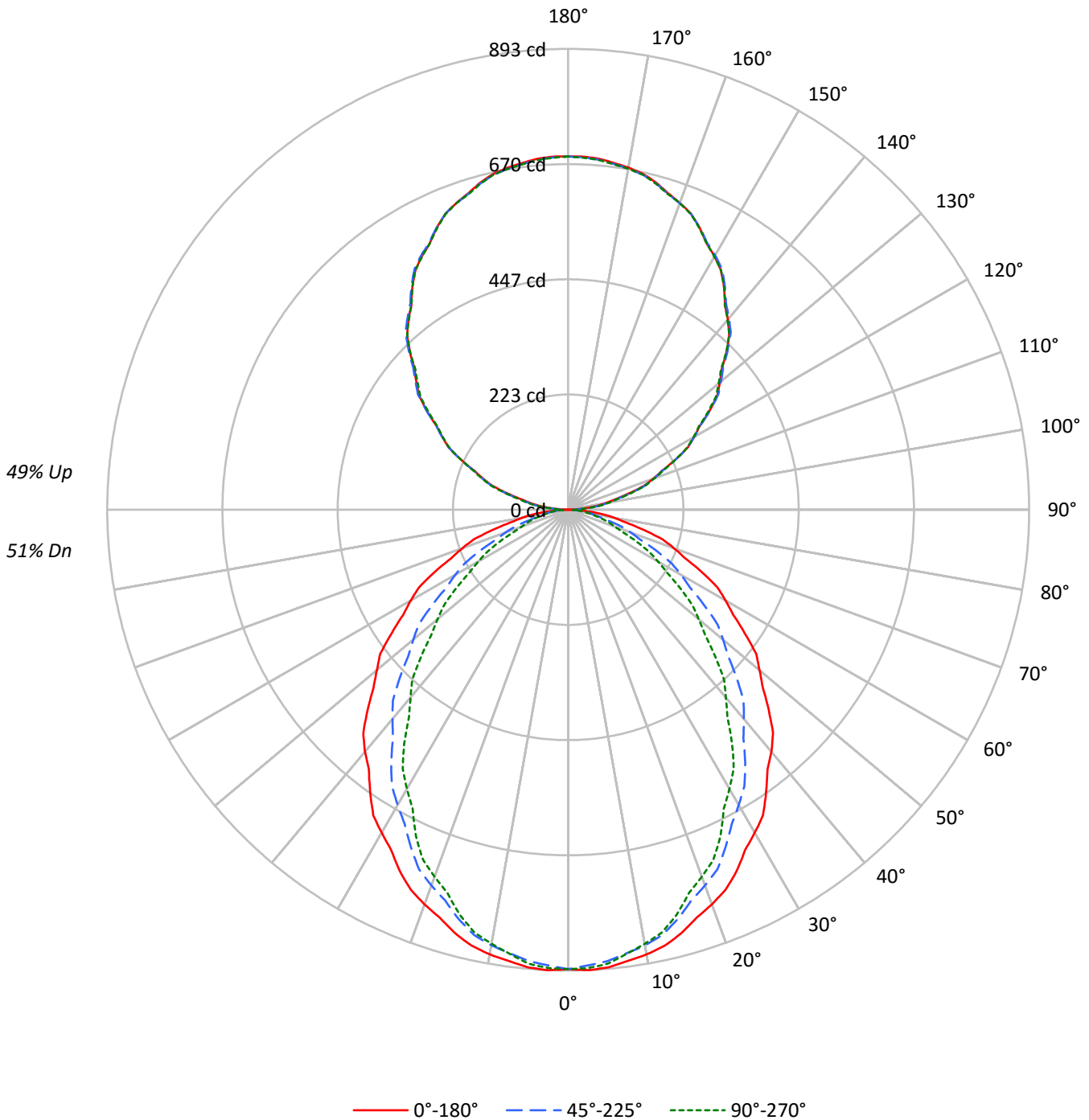
Input Watts (W): 32.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	94	90	87	91	87	84	81	74	72	70	62	61	59	51	50	49	44
2	90	83	77	72	83	77	72	67	65	62	58	55	52	50	46	44	42	37
3	82	73	66	60	76	68	61	56	58	53	49	49	46	43	41	38	36	32
4	75	65	57	51	69	60	53	48	52	47	42	44	40	37	37	34	31	28
5	69	58	50	44	64	54	47	42	46	41	37	40	35	32	33	30	27	24
6	64	52	44	38	59	49	41	36	42	36	32	36	32	28	30	27	24	21
7	59	47	39	34	55	44	37	32	38	33	28	33	28	25	28	24	22	19
8	55	43	35	30	51	40	33	28	35	29	25	30	26	22	25	22	20	17
9	51	39	32	27	47	37	30	25	32	27	23	28	23	20	23	20	18	16
10	48	36	29	24	44	34	27	23	30	24	21	26	21	18	22	19	16	14

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	9582	9582	9582
5°	9619	9487	9541
10°	9565	9368	9335
15°	9461	9149	9052
20°	9321	8874	8668
25°	9175	8567	8291
30°	8983	8211	7762
35°	8784	7857	7276
40°	8604	7436	6674
45°	8363	7024	6132
50°	8100	6553	5526
55°	7833	6016	4960
60°	7584	5440	4336
65°	7264	4819	3713
70°	6861	4047	2999
75°	6276	3182	2824
80°	5597	2820	2591
85°	4730	2495	2322



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.6	2.1
10°-20°	232.6	5.9
20°-30°	334.9	8.6
30°-40°	377.3	9.7
40°-50°	360.9	9.2
50°-60°	295.6	7.6
60°-70°	199.4	5.1
70°-80°	100.3	2.6
80°-90°	28.6	0.7
90°-100°	44.6	1.1
100°-110°	133.4	3.4
110°-120°	227.0	5.8
120°-130°	298.5	7.6
130°-140°	335.6	8.6
140°-150°	329.8	8.4
150°-160°	277.7	7.1
160°-170°	184.8	4.7
170°-180°	64.7	1.7
0°-30°	651.1	16.7
0°-40°	1028.4	26.3
0°-60°	1684.8	43.1
0°-90°	2013.1	51.5
90°-120°	405.0	10.4
90°-150°	1368.9	35.0
90°-180°	1896.0	48.5
0°-180°	3909.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	890	890	890	890	890	
5°	890	886	878	884	883	84
15°	849	840	821	817	812	239
25°	772	754	721	706	698	355
35°	668	642	598	568	554	418
45°	549	516	461	422	403	424
55°	417	380	321	280	264	374
65°	285	245	189	155	146	282
75°	151	116	76	70	68	161
85°	38	23	20	19	19	43
90°	1	6	13	15	16	4
95°	32	36	40	42	42	36
105°	121	122	127	127	128	130
115°	228	230	229	230	229	226
125°	334	336	335	333	331	298
135°	434	437	437	434	433	334
145°	526	527	529	528	526	329
155°	603	603	603	605	602	277
165°	656	655	655	658	654	185
175°	683	681	681	683	680	65
180°	684	684	684	684	684	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2
2.5°	893.2	892.6	892.1	891.6	891.1	890.0	888.5	886.9	885.4	883.9	885.3
5°	890.2	889.5	888.6	887.9	887.0	885.7	883.7	881.8	879.9	878.0	879.4
7.5°	882.0	881.2	880.2	879.4	878.5	876.8	874.4	871.9	869.3	866.9	867.6
10°	875.1	873.9	872.8	871.7	870.6	868.6	865.7	862.8	859.9	857.1	857.1
12.5°	865.3	864.0	862.7	861.5	860.3	857.9	854.3	850.8	847.3	843.8	843.7
15°	849.0	847.3	845.6	843.8	842.1	838.9	834.4	829.9	825.4	821.0	820.1
17.5°	828.7	826.7	824.6	822.6	820.5	816.6	810.9	805.2	799.5	793.8	792.1
20°	813.7	811.2	808.6	806.0	803.4	799.1	793.0	786.9	780.8	774.7	772.6
22.5°	796.9	794.0	791.1	788.1	785.1	780.4	773.9	767.4	761.0	754.5	751.9
25°	772.5	768.5	764.5	760.5	756.5	750.8	743.4	736.0	728.7	721.3	717.9
27.5°	742.9	738.5	734.1	729.6	725.2	718.9	710.7	702.5	694.3	686.1	681.4
30°	722.7	717.9	713.1	708.3	703.5	696.5	687.6	678.6	669.6	660.6	655.2
32.5°	702.5	697.1	691.6	686.2	680.7	673.3	663.7	654.2	644.7	635.2	629.2
35°	668.5	662.8	657.0	651.3	645.5	637.6	627.6	617.7	607.8	597.9	590.9
37.5°	634.2	627.8	621.4	614.9	608.5	600.0	589.4	578.8	568.2	557.5	549.7
40°	612.3	605.2	598.1	591.1	584.0	574.8	563.5	552.0	540.6	529.2	520.8
42.5°	587.4	580.3	573.3	566.3	559.2	549.8	538.0	526.2	514.4	502.7	493.5
45°	549.4	542.2	535.0	527.8	520.6	510.8	498.4	486.1	473.7	461.4	452.2
47.5°	511.4	503.5	495.6	487.7	479.8	469.7	457.2	444.9	432.5	420.2	410.3
50°	483.7	476.2	468.6	461.1	453.6	443.3	430.3	417.4	404.4	391.3	381.4
52.5°	458.9	450.7	442.5	434.3	426.2	415.7	402.7	389.9	377.0	364.2	353.8
55°	417.4	409.4	401.6	393.7	385.9	375.1	361.5	347.9	334.2	320.6	311.2
57.5°	378.9	370.3	361.7	353.2	344.6	333.5	319.8	306.1	292.4	278.7	269.9
60°	352.3	343.6	334.7	325.8	317.1	305.9	292.7	279.4	266.0	252.7	244.0
62.5°	325.7	317.0	308.1	299.3	290.5	279.4	266.1	252.8	239.4	226.1	218.0
65°	285.2	276.4	267.6	258.7	249.9	239.2	226.7	214.2	201.7	189.2	181.3
67.5°	244.6	235.7	226.8	217.8	209.0	198.5	186.4	174.5	162.5	150.4	144.6
70°	218.0	209.3	200.8	192.1	183.4	173.4	162.2	151.0	139.8	128.6	122.9
72.5°	191.4	182.9	174.4	165.9	157.3	148.0	137.8	127.5	117.3	107.2	102.5
75°	150.9	143.2	135.5	127.8	120.1	111.8	103.0	94.2	85.4	76.5	74.9
77.5°	114.0	107.0	100.0	93.0	86.1	79.7	74.1	68.4	62.7	57.0	56.2
80°	90.3	83.7	77.1	70.5	63.9	59.0	55.6	52.2	48.8	45.5	45.0
82.5°	67.8	62.0	56.4	50.7	45.0	41.4	39.8	38.3	36.7	35.1	34.6
85°	38.3	34.8	31.2	27.7	24.1	22.1	21.7	21.2	20.7	20.2	19.9
87.5°	13.9	12.8	11.6	10.5	9.2	8.9	9.1	9.4	9.8	10.1	10.1
90°	0.6	1.7	2.9	4.1	5.3	6.7	8.2	9.8	11.3	12.9	13.4
92.5°	13.0	13.9	14.6	15.5	16.3	17.2	18.0	18.9	19.8	20.6	21.0
95°	31.8	32.5	33.4	34.2	35.1	36.0	36.9	37.9	38.8	39.8	40.2
97.5°	56.4	56.9	57.6	58.2	58.8	59.5	60.1	60.9	61.5	62.3	62.8
100°	73.1	73.8	74.6	75.3	76.0	76.6	77.2	77.9	78.4	79.0	79.4
102.5°	92.5	92.9	93.3	93.8	94.2	94.8	95.6	96.4	97.2	97.9	98.3
105°	120.9	121.2	121.4	121.7	122.0	122.5	123.7	124.7	125.8	126.9	126.9
107.5°	154.1	154.2	154.4	154.5	154.7	155.0	155.3	155.8	156.3	156.7	157.0
110°	174.7	174.9	175.2	175.4	175.7	175.9	176.2	176.4	176.6	176.9	177.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	196.2	196.3	196.5	196.6	196.8	196.9	197.0	197.0	197.1	197.1	197.7
115°	228.5	228.8	229.2	229.6	229.9	230.0	229.7	229.5	229.2	229.0	229.1
117.5°	261.0	261.2	261.5	261.6	261.9	261.8	261.6	261.3	261.0	260.6	260.6
120°	281.2	281.9	282.6	283.3	284.1	284.1	283.5	283.0	282.3	281.7	281.6
122.5°	302.3	302.7	303.3	303.8	304.3	304.4	304.2	303.9	303.5	303.2	302.9
125°	334.4	334.8	335.1	335.5	335.8	335.9	335.6	335.5	335.2	335.0	334.4
127.5°	364.1	364.9	365.6	366.4	367.1	367.4	367.1	366.8	366.6	366.4	365.7
130°	383.9	384.8	385.8	386.7	387.7	388.0	387.7	387.3	386.9	386.5	386.1
132.5°	403.6	404.6	405.6	406.5	407.5	407.8	407.6	407.3	407.0	406.8	406.1
135°	433.9	434.6	435.3	436.0	436.7	437.1	436.9	436.8	436.7	436.6	436.1
137.5°	461.8	462.4	463.0	463.6	464.2	464.7	465.0	465.2	465.6	465.9	465.4
140°	481.2	481.7	482.4	483.0	483.5	483.9	484.0	484.2	484.3	484.4	484.3
142.5°	498.8	499.4	500.0	500.6	501.1	501.6	501.8	502.0	502.3	502.5	502.4
145°	526.3	526.6	526.8	527.1	527.3	527.5	527.9	528.3	528.7	529.0	528.9
147.5°	550.4	550.8	551.3	551.7	552.1	552.5	552.9	553.2	553.6	553.8	553.8
150°	567.2	567.4	567.7	567.9	568.2	568.4	568.6	568.8	569.1	569.3	569.3
152.5°	581.0	581.3	581.6	581.9	582.3	582.5	582.7	582.8	583.0	583.1	583.2
155°	602.7	602.7	602.7	602.7	602.7	602.8	602.9	602.9	603.1	603.2	603.7
157.5°	621.1	621.0	620.9	620.8	620.6	620.6	620.7	620.8	620.9	620.9	621.4
160°	632.7	632.5	632.3	632.1	631.8	631.7	631.7	631.7	631.7	631.7	632.3
162.5°	643.1	642.7	642.4	642.1	641.8	641.7	641.8	641.9	642.0	642.1	642.6
165°	656.4	656.1	655.7	655.3	655.0	654.8	654.8	654.8	654.8	654.8	655.5
167.5°	667.0	666.6	666.1	665.6	665.2	665.0	665.1	665.2	665.2	665.3	666.1
170°	673.1	672.6	672.1	671.7	671.2	670.9	670.9	670.9	670.9	670.9	671.8
172.5°	677.8	677.3	676.8	676.4	675.9	675.7	675.7	675.7	675.7	675.7	676.5
175°	682.8	682.3	681.8	681.4	680.9	680.6	680.6	680.6	680.6	680.6	681.4
177.5°	684.9	684.5	684.1	683.6	683.2	683.1	683.1	683.1	683.1	683.1	683.6
180°	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2
2.5°	886.7	888.2	889.6	890.1	889.9	889.6	889.4	889.1
5°	880.8	882.3	883.7	884.3	884.0	883.6	883.4	883.0
7.5°	868.5	869.2	870.1	870.2	869.6	869.1	868.6	868.0
10°	857.3	857.5	857.6	857.3	856.6	855.7	855.0	854.1
12.5°	843.6	843.5	843.4	842.8	841.9	840.9	840.1	839.1
15°	819.4	818.5	817.7	816.7	815.6	814.5	813.4	812.3
17.5°	790.4	788.7	786.9	785.3	783.6	781.9	780.2	778.6
20°	770.5	768.5	766.4	764.4	762.4	760.5	758.6	756.7
22.5°	749.3	746.7	744.1	741.9	740.1	738.3	736.5	734.7
25°	714.5	711.1	707.8	705.2	703.5	701.7	699.9	698.1
27.5°	676.7	672.0	667.3	663.6	660.9	658.3	655.5	652.8
30°	649.7	644.2	638.9	634.8	632.3	629.7	627.1	624.5
32.5°	623.3	617.3	611.3	607.0	604.4	601.6	598.9	596.3
35°	584.0	577.1	570.2	565.3	562.4	559.6	556.7	553.7
37.5°	541.9	534.0	526.2	520.6	517.0	513.4	509.8	506.2
40°	512.6	504.2	495.9	489.8	486.2	482.5	478.8	475.0
42.5°	484.5	475.3	466.2	460.0	456.7	453.4	450.1	446.8
45°	443.1	433.9	424.8	418.3	414.4	410.6	406.7	402.8
47.5°	400.3	390.4	380.4	373.7	370.3	366.8	363.4	360.0
50°	371.5	361.5	351.6	344.7	341.0	337.3	333.7	330.0
52.5°	343.6	333.2	322.8	316.0	312.7	309.4	306.1	302.8
55°	302.0	292.7	283.3	277.1	273.9	270.7	267.5	264.3
57.5°	261.1	252.3	243.6	237.8	235.1	232.3	229.6	226.9
60°	235.4	226.7	218.0	212.4	209.6	206.9	204.2	201.4
62.5°	209.8	201.7	193.5	188.0	185.2	182.3	179.5	176.6
65°	173.4	165.6	157.7	152.9	151.2	149.4	147.6	145.8
67.5°	138.7	132.8	127.0	123.1	121.2	119.3	117.4	115.6
70°	117.3	111.7	106.0	102.4	100.6	98.9	97.1	95.3
72.5°	97.9	93.4	88.8	86.1	85.4	84.6	83.9	83.1
75°	73.3	71.7	70.1	69.2	68.8	68.5	68.1	67.9
77.5°	55.3	54.5	53.5	53.0	52.7	52.3	52.0	51.7
80°	44.5	44.0	43.5	43.2	42.9	42.5	42.2	41.8
82.5°	34.1	33.6	33.2	32.9	32.8	32.8	32.7	32.6
85°	19.6	19.2	18.9	18.8	18.8	18.8	18.8	18.8
87.5°	10.0	10.0	10.0	9.9	9.8	9.7	9.6	9.6
90°	13.9	14.3	14.8	15.2	15.5	15.6	15.9	16.1
92.5°	21.4	21.8	22.1	22.3	22.1	22.0	21.9	21.7
95°	40.7	41.2	41.7	41.9	41.9	41.9	41.9	41.9
97.5°	63.3	63.9	64.5	64.7	64.7	64.6	64.6	64.5
100°	79.7	80.1	80.5	80.8	81.0	81.2	81.4	81.7
102.5°	98.7	99.1	99.3	99.5	99.5	99.4	99.4	99.3
105°	126.9	126.9	126.9	127.0	127.2	127.4	127.7	128.0
107.5°	157.4	157.8	158.2	158.3	158.2	158.1	157.9	157.8
110°	177.9	178.3	178.8	178.9	178.7	178.4	178.2	178.0





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	198.2	198.8	199.3	199.6	199.6	199.5	199.5	199.4
115°	229.2	229.4	229.5	229.5	229.4	229.2	229.1	229.0
117.5°	260.6	260.5	260.5	260.3	260.0	259.7	259.4	259.0
120°	281.4	281.3	281.3	281.1	280.8	280.6	280.3	280.1
122.5°	302.6	302.3	302.0	301.6	301.3	301.0	300.7	300.3
125°	333.9	333.5	333.0	332.5	332.1	331.6	331.1	330.6
127.5°	365.0	364.3	363.6	363.1	362.5	361.9	361.4	360.8
130°	385.6	385.1	384.7	384.0	383.1	382.3	381.4	380.6
132.5°	405.6	405.0	404.4	403.9	403.2	402.6	401.9	401.2
135°	435.5	435.1	434.6	434.2	434.0	433.8	433.6	433.3
137.5°	464.9	464.4	463.9	463.4	463.0	462.5	462.0	461.6
140°	484.2	484.0	483.9	483.4	482.6	481.7	480.9	480.1
142.5°	502.2	502.1	502.0	501.6	501.0	500.3	499.6	499.0
145°	528.8	528.7	528.6	528.2	527.7	527.3	526.8	526.3
147.5°	553.8	553.8	553.8	553.5	552.8	552.0	551.4	550.6
150°	569.3	569.3	569.3	569.0	568.3	567.5	566.8	566.1
152.5°	583.5	583.7	583.9	583.6	583.1	582.4	581.8	581.2
155°	604.2	604.6	605.1	604.9	604.1	603.2	602.5	601.6
157.5°	622.0	622.5	622.9	622.8	622.2	621.5	620.9	620.2
160°	632.9	633.5	634.0	634.1	633.7	633.2	632.7	632.3
162.5°	643.2	643.9	644.4	644.3	643.6	642.8	642.1	641.3
165°	656.3	657.0	657.7	657.6	656.8	655.9	655.2	654.3
167.5°	666.8	667.6	668.4	668.4	667.6	666.8	666.1	665.3
170°	672.6	673.4	674.3	674.3	673.4	672.6	671.8	670.9
172.5°	677.1	677.9	678.6	678.6	677.8	676.9	676.1	675.2
175°	682.0	682.8	683.5	683.4	682.6	681.7	680.9	680.0
177.5°	684.3	684.9	685.4	685.3	684.7	684.0	683.3	682.7
180°	684.4	684.4	684.4	684.4	684.4	684.4	684.4	684.4

(END OF REPORT)