

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: P331926-830

Luminaire Tested: **S123DIP-S560D585U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331926-830  
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: S123DIP-S560D585U830-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4083.2 lumens  
Efficiency: N/A  
Efficacy: 124.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse

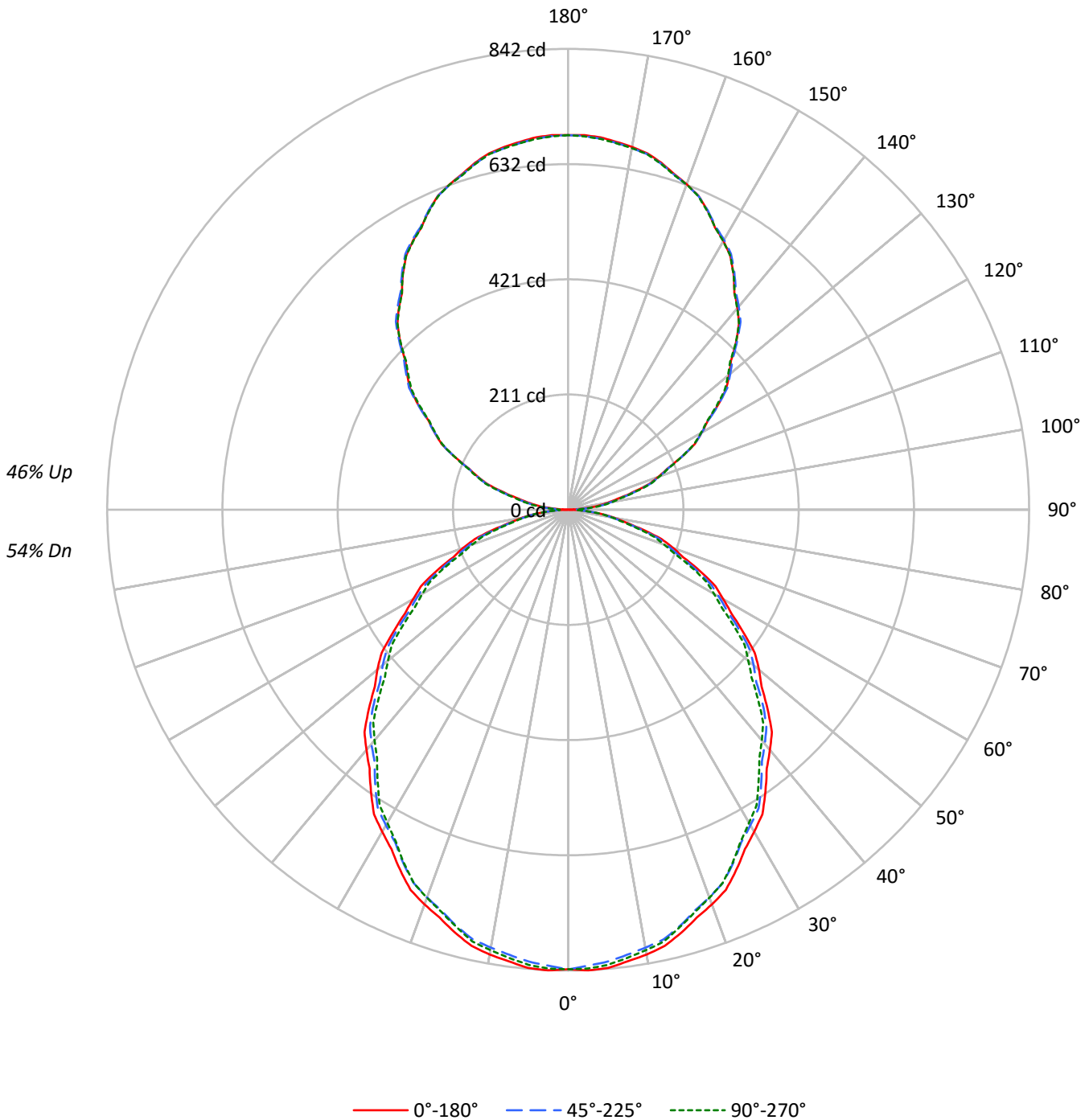
Input Watts (W): 32.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	54
1	99	94	90	87	91	87	84	81	75	72	70	63	61	60	52	51	50	45
2	90	82	76	71	83	76	71	66	65	61	58	55	52	50	46	44	42	38
3	82	72	65	59	75	67	61	55	58	53	49	49	45	42	41	38	36	32
4	75	64	56	50	69	60	52	47	51	46	41	44	39	36	36	33	31	27
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	29	27	24
6	63	51	43	37	58	48	40	35	41	36	31	35	31	27	30	26	24	21
7	59	46	38	32	54	43	36	31	37	32	27	32	28	24	27	24	21	18
8	54	42	34	29	50	39	32	27	34	28	24	29	25	22	25	21	19	16
9	51	38	31	26	47	36	29	24	31	26	22	27	23	19	23	20	17	15
10	47	35	28	23	44	33	26	22	29	23	20	25	21	18	21	18	15	13

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

	0°	45°	90°
0°	9038	9038	9038
5°	9081	8956	9018
10°	9021	8878	8933
15°	8914	8778	8795
20°	8791	8635	8643
25°	8626	8464	8445
30°	8444	8274	8211
35°	8253	8073	7970
40°	8056	7852	7731
45°	7837	7649	7462
50°	7618	7400	7194
55°	7330	7141	6923
60°	7042	6837	6622
65°	6788	6510	6306
70°	6408	6134	5860
75°	5856	5644	5407
80°	5281	5058	5015
85°	4631	4458	4286



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	79.1	1.9
10°-20°	223.3	5.5
20°-30°	329.9	8.1
30°-40°	385.4	9.4
40°-50°	387.4	9.5
50°-60°	340.3	8.3
60°-70°	253.5	6.2
70°-80°	144.5	3.5
80°-90°	43.5	1.1
90°-100°	44.6	1.1
100°-110°	133.4	3.3
110°-120°	227.0	5.6
120°-130°	298.5	7.3
130°-140°	335.6	8.2
140°-150°	329.8	8.1
150°-160°	277.7	6.8
160°-170°	184.8	4.5
170°-180°	64.7	1.6
0°-30°	632.3	15.5
0°-40°	1017.7	24.9
0°-60°	1745.5	42.7
0°-90°	2187.0	53.6
90°-120°	405.0	9.9
90°-150°	1368.9	33.5
90°-180°	1896.0	46.4
0°-180°	4083.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	840	840	840	840	840	
5°	840	837	829	836	835	80
15°	800	797	788	793	789	225
25°	726	722	713	713	711	334
35°	628	624	614	610	606	393
45°	515	512	502	494	490	397
55°	391	389	380	373	369	350
65°	266	263	256	250	248	263
75°	141	138	136	132	130	151
85°	38	36	36	35	35	41
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°	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7
2.5°	842.5	842.1	841.6	841.0	840.6	839.5	838.1	836.7	835.4	834.0	835.2
5°	840.4	839.6	838.8	838.0	837.2	835.9	834.2	832.4	830.7	828.9	830.5
7.5°	832.2	831.4	830.6	829.8	829.0	827.6	825.9	824.0	822.2	820.4	821.8
10°	825.3	824.4	823.7	822.8	822.1	820.6	818.5	816.4	814.4	812.3	813.7
12.5°	816.1	815.3	814.6	814.0	813.3	812.0	810.0	808.0	806.2	804.2	805.2
15°	799.9	799.4	798.7	798.1	797.4	796.1	794.0	791.9	789.8	787.7	789.0
17.5°	781.4	780.5	779.7	778.8	778.0	776.6	774.5	772.4	770.3	768.2	769.1
20°	767.5	766.6	765.5	764.6	763.6	762.1	760.1	758.0	755.8	753.8	754.4
22.5°	751.9	750.9	750.0	749.0	748.0	746.5	744.4	742.3	740.3	738.2	738.7
25°	726.3	725.4	724.4	723.5	722.5	721.0	718.9	716.8	714.7	712.7	712.8
27.5°	699.1	698.1	697.2	696.3	695.3	693.7	691.4	689.3	687.0	684.8	684.9
30°	679.4	678.6	677.8	677.0	676.2	674.7	672.4	670.1	668.0	665.7	665.7
32.5°	659.8	658.7	657.6	656.6	655.5	654.1	652.4	650.6	648.9	647.2	646.3
35°	628.1	627.2	626.2	625.3	624.3	622.7	620.7	618.6	616.5	614.4	613.5
37.5°	595.8	594.6	593.3	592.1	590.9	589.3	587.1	585.0	582.9	580.8	579.7
40°	573.3	572.3	571.4	570.4	569.4	567.8	565.5	563.4	561.1	558.8	557.5
42.5°	550.7	549.7	548.6	547.4	546.4	544.7	542.4	540.3	538.0	535.7	534.4
45°	514.8	514.2	513.5	512.8	512.2	510.9	508.8	506.7	504.6	502.5	500.6
47.5°	479.1	478.2	477.3	476.4	475.4	473.9	472.0	470.0	468.1	466.1	464.2
50°	454.9	454.0	453.3	452.4	451.7	450.3	448.1	446.0	443.9	441.9	440.1
52.5°	429.4	428.9	428.4	427.8	427.3	425.8	423.7	421.5	419.2	417.1	415.6
55°	390.6	390.4	390.3	390.1	389.9	388.8	386.7	384.7	382.6	380.5	378.7
57.5°	353.6	353.1	352.5	352.0	351.5	350.3	348.6	347.0	345.3	343.7	342.1
60°	327.1	326.9	326.8	326.6	326.4	325.4	323.5	321.5	319.6	317.6	316.2
62.5°	303.4	302.9	302.6	302.2	301.7	300.6	298.6	296.7	294.7	292.8	291.4
65°	266.5	265.6	264.9	264.0	263.3	262.0	260.4	258.8	257.2	255.6	254.3
67.5°	227.2	226.6	225.8	225.2	224.4	223.5	222.3	221.0	219.8	218.7	217.5
70°	203.6	202.6	201.7	200.8	199.7	198.8	197.8	196.9	195.9	194.9	193.8
72.5°	178.8	178.0	177.4	176.6	176.0	175.0	174.0	172.9	171.7	170.7	169.7
75°	140.8	140.2	139.5	138.8	138.3	137.7	137.1	136.7	136.2	135.7	135.0
77.5°	107.2	106.8	106.4	106.1	105.8	105.3	104.7	104.2	103.5	102.9	102.5
80°	85.2	84.7	84.3	83.8	83.2	82.8	82.6	82.2	81.9	81.6	81.4
82.5°	63.8	63.7	63.6	63.5	63.4	63.3	63.3	63.2	63.2	63.2	62.8
85°	37.5	37.2	36.9	36.6	36.3	36.1	36.1	36.1	36.1	36.1	35.8
87.5°	15.1	15.0	14.8	14.7	14.5	14.5	14.7	14.9	15.1	15.3	15.3
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°	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7
2.5°	836.5	837.7	839.1	839.6	839.5	839.3	839.2	839.1
5°	832.1	833.7	835.3	835.9	835.6	835.3	835.0	834.6
7.5°	823.2	824.6	826.1	826.7	826.5	826.3	826.1	826.0
10°	815.1	816.6	818.0	818.6	818.3	817.9	817.7	817.3
12.5°	806.3	807.4	808.4	808.8	808.6	808.4	808.2	808.0
15°	790.3	791.5	792.9	793.0	792.0	791.1	790.1	789.2
17.5°	770.1	770.9	771.8	772.0	771.8	771.4	771.0	770.6
20°	755.1	755.7	756.3	756.4	755.9	755.4	755.0	754.5
22.5°	739.2	739.7	740.3	740.2	739.6	739.0	738.4	737.7
25°	712.9	713.1	713.2	713.1	712.7	712.2	711.6	711.1
27.5°	685.0	685.1	685.2	685.0	684.4	683.8	683.2	682.6
30°	665.7	665.7	665.7	665.2	664.0	662.9	661.8	660.6
32.5°	645.5	644.5	643.6	642.8	642.2	641.7	641.0	640.5
35°	612.5	611.5	610.6	609.7	608.9	608.1	607.3	606.5
37.5°	578.4	577.3	576.2	575.3	574.9	574.3	573.8	573.3
40°	556.3	555.0	553.7	552.7	552.0	551.5	550.8	550.2
42.5°	533.2	531.9	530.6	529.6	529.0	528.4	527.7	527.1
45°	498.7	496.7	494.8	493.4	492.7	491.8	491.1	490.2
47.5°	462.3	460.4	458.5	457.2	456.6	455.8	455.2	454.4
50°	438.4	436.6	434.8	433.5	432.4	431.5	430.6	429.6
52.5°	414.1	412.6	411.0	409.7	408.8	407.8	406.9	406.0
55°	376.9	375.2	373.4	372.1	371.4	370.5	369.8	368.9
57.5°	340.5	338.9	337.4	336.1	335.2	334.3	333.4	332.4
60°	314.8	313.4	311.9	310.8	310.0	309.2	308.4	307.6
62.5°	289.9	288.5	287.1	286.1	285.5	285.0	284.5	283.9
65°	253.0	251.8	250.4	249.6	249.1	248.6	248.2	247.6
67.5°	216.4	215.3	214.1	213.2	212.5	211.9	211.2	210.6
70°	192.7	191.6	190.5	189.5	188.7	187.8	187.1	186.2
72.5°	168.7	167.7	166.7	166.0	165.6	165.1	164.8	164.3
75°	134.1	133.4	132.5	131.9	131.4	130.9	130.4	130.0
77.5°	101.9	101.3	100.8	100.5	100.5	100.5	100.5	100.5
80°	81.2	81.1	81.0	80.9	80.9	80.9	80.9	80.9
82.5°	62.5	62.2	61.9	61.7	61.6	61.5	61.4	61.3
85°	35.4	35.2	34.8	34.7	34.7	34.7	34.7	34.7
87.5°	15.3	15.2	15.2	15.2	15.2	15.3	15.3	15.4
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)