

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: P332784-930

Luminaire Tested: **S124DIW-S795D770U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332784-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIW-S795D770U930-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 770 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

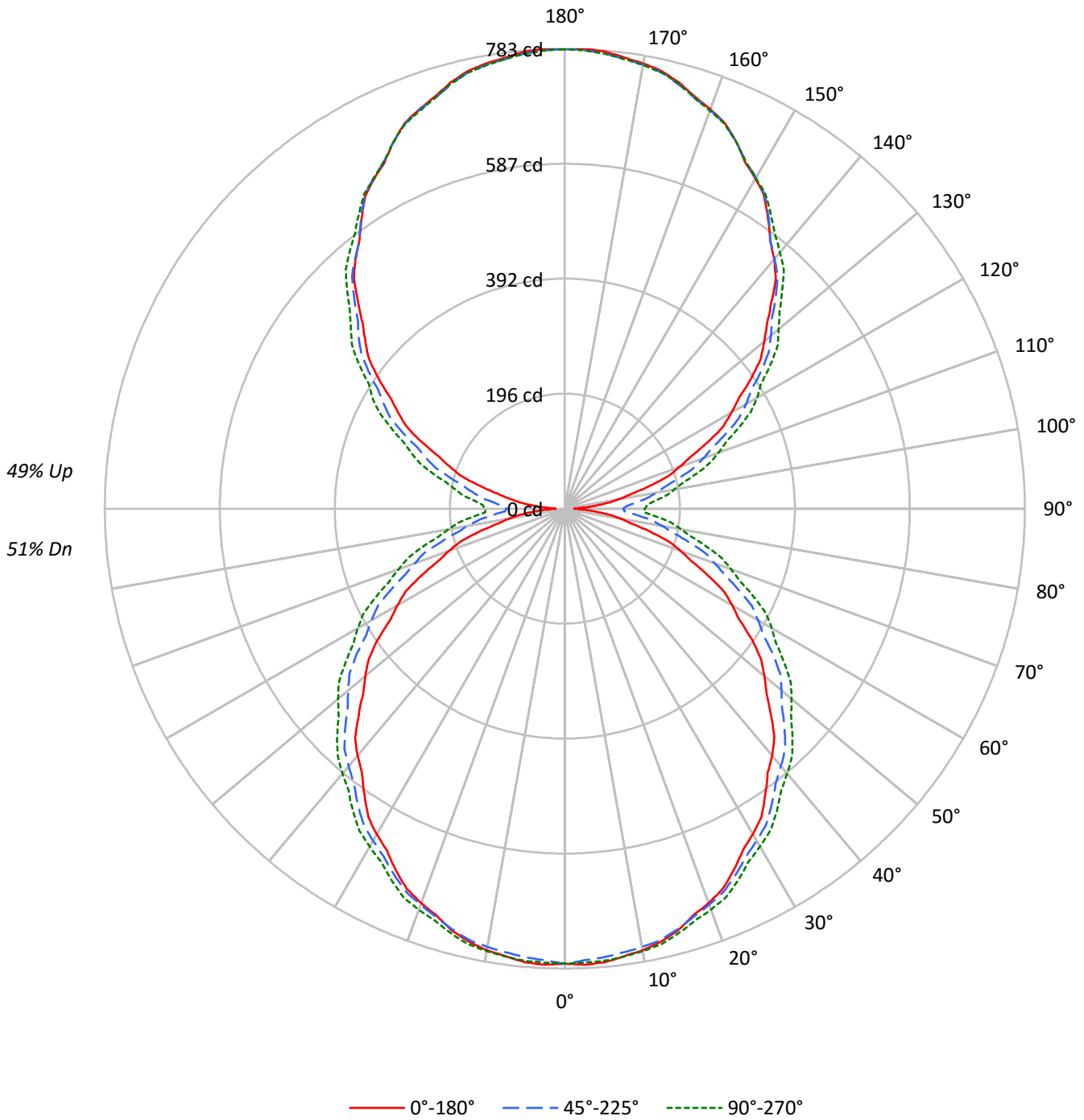
Lumens per Lamp: N/A  
Luminaire Lumens: 4813.0 lumens  
Efficiency: N/A  
Efficacy: 107.0 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

Input Watts (W): 45  
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	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									51																			
1	97	92	88	84	89	85	81	78	72	69	67	60	58	56	49	47	46	41									41																			
2	88	80	73	68	81	74	68	63	62	58	54	52	49	46	42	40	38	33									33																			
3	80	70	62	56	73	65	58	52	55	49	45	45	42	38	37	34	32	28									28																			
4	73	62	53	47	67	57	50	44	48	43	38	40	36	33	33	30	27	23									23																			
5	67	55	46	40	61	51	43	38	43	37	33	36	32	28	29	26	23	20									20																			
6	61	49	41	35	56	45	38	32	39	33	28	32	28	24	27	23	20	17									17																			
7	57	44	36	30	52	41	34	28	35	29	25	29	25	21	24	21	18	15									15																			
8	53	40	32	27	48	37	30	25	32	26	22	27	22	19	22	19	16	14									14																			
9	49	36	29	24	45	34	27	22	29	24	20	25	20	17	20	17	14	12									12																			
10	46	33	26	21	42	31	24	20	27	21	18	23	18	15	19	16	13	11									11																			

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

	0°	45°	90°
0°	6252	6252	6252
5°	6271	6110	6128
10°	6233	6010	6006
15°	6177	5894	5862
20°	6093	5766	5723
25°	5998	5624	5569
30°	5895	5481	5411
35°	5779	5336	5274
40°	5685	5196	5129
45°	5547	5069	5005
50°	5430	4922	4876
55°	5310	4783	4722
60°	5121	4605	4583
65°	4915	4414	4411
70°	4666	4197	4210
75°	4318	3960	4029
80°	3929	3731	3851
85°	3441	3526	3748



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.3	1.5
10°-20°	210.1	4.4
20°-30°	317.7	6.6
30°-40°	384.4	8.0
40°-50°	406.4	8.4
50°-60°	382.5	7.9
60°-70°	317.3	6.6
70°-80°	222.9	4.6
80°-90°	128.4	2.7
90°-100°	126.4	2.6
100°-110°	208.3	4.3
110°-120°	296.6	6.2
120°-130°	363.1	7.5
130°-140°	393.3	8.2
140°-150°	379.4	7.9
150°-160°	317.6	6.6
160°-170°	211.3	4.4
170°-180°	74.0	1.5
0°-30°	601.2	12.5
0°-40°	985.6	20.5
0°-60°	1774.4	36.9
0°-90°	2443.0	50.8
90°-120°	631.3	13.1
90°-150°	1767.1	36.7
90°-180°	2370.0	49.2
0°-180°	4813.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	774	774	774	774	774	
5°	775	772	767	773	773	74
15°	743	744	741	749	748	209
25°	680	685	688	697	698	313
35°	595	605	614	626	629	372
45°	496	513	529	543	548	383
55°	388	407	433	449	455	346
65°	269	297	326	347	355	266
75°	149	182	218	241	250	159
85°	46	83	121	146	156	49
90°	16	57	99	127	136	11
95°	48	82	121	146	154	49
105°	149	168	201	224	234	158
115°	269	278	303	321	327	266
125°	388	388	408	423	427	346
135°	497	501	507	519	523	385
145°	603	604	605	610	611	377
155°	690	690	689	691	689	317
165°	751	749	748	751	749	212
175°	781	778	778	781	778	74
180°	782	782	782	782	782	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	774.5	774.5	774.5	774.5	774.5	774.5	774.5	774.5	774.5	774.5	774.5
2.5°	777.2	776.7	776.2	775.8	775.3	774.5	773.2	772.0	770.8	769.6	770.6
5°	775.3	774.7	774.1	773.6	773.0	772.0	770.6	769.3	767.9	766.6	768.2
7.5°	768.7	768.3	768.0	767.7	767.3	766.5	765.5	764.3	763.2	762.1	763.9
10°	763.1	763.0	762.8	762.5	762.4	761.8	760.8	759.9	758.9	757.9	759.7
12.5°	755.5	755.5	755.5	755.4	755.4	755.0	754.4	753.7	753.0	752.4	754.0
15°	743.2	743.4	743.6	743.8	744.0	743.8	743.2	742.7	742.0	741.4	743.2
17.5°	726.4	726.9	727.5	728.1	728.7	728.9	728.8	728.7	728.6	728.5	730.3
20°	714.6	715.2	715.8	716.3	716.9	717.3	717.5	717.6	717.9	718.0	720.0
22.5°	701.4	702.1	702.9	703.6	704.3	704.9	705.2	705.6	705.9	706.3	708.2
25°	679.9	681.0	682.2	683.4	684.5	685.4	686.0	686.6	687.1	687.7	689.8
27.5°	656.0	657.6	659.3	661.0	662.8	664.1	665.0	665.8	666.7	667.6	669.5
30°	640.0	641.6	643.1	644.7	646.2	647.6	649.0	650.3	651.7	653.0	655.1
32.5°	622.6	624.5	626.4	628.2	630.1	631.7	633.2	634.7	636.3	637.7	640.2
35°	594.9	597.2	599.6	601.9	604.1	606.3	608.2	610.2	612.0	614.0	616.7
37.5°	567.0	569.6	572.3	574.9	577.6	580.2	582.5	584.9	587.3	589.7	592.5
40°	548.9	551.5	553.9	556.4	559.0	561.6	564.3	567.0	569.6	572.3	575.3
42.5°	528.2	530.9	533.8	536.5	539.4	542.3	545.5	548.7	551.9	555.0	558.2
45°	496.0	499.7	503.4	507.0	510.7	514.4	518.0	521.7	525.3	529.0	532.3
47.5°	465.4	469.1	472.9	476.7	480.5	484.5	488.7	492.9	497.2	501.4	504.8
50°	443.1	447.4	451.6	455.8	460.1	464.3	468.6	472.8	477.0	481.3	485.2
52.5°	420.9	425.2	429.4	433.7	437.9	442.5	447.3	452.2	457.1	461.9	465.7
55°	388.5	392.6	396.6	400.6	404.7	409.6	415.4	421.2	427.0	432.8	436.6
57.5°	352.3	357.3	362.3	367.3	372.3	377.6	383.4	389.1	394.9	400.6	405.2
60°	328.6	333.7	338.7	343.7	348.7	354.4	360.8	367.1	373.5	379.8	384.3
62.5°	305.7	311.3	316.7	322.2	327.7	333.6	340.0	346.3	352.7	359.1	363.5
65°	268.8	275.0	281.2	287.3	293.5	299.9	306.4	313.0	319.5	326.0	330.8
67.5°	233.3	239.9	246.4	252.9	259.5	266.3	273.3	280.3	287.3	294.3	299.2
70°	209.0	215.6	222.1	228.7	235.2	242.1	249.5	256.8	264.1	271.4	276.6
72.5°	185.4	192.1	198.9	205.5	212.2	219.5	227.3	235.1	242.9	250.6	255.7
75°	149.2	156.3	163.4	170.6	177.7	185.3	193.4	201.5	209.6	217.7	223.1
77.5°	115.4	122.9	130.4	138.0	145.5	153.6	162.1	170.6	179.0	187.5	193.0
80°	94.5	102.2	109.9	117.6	125.4	133.5	141.9	150.4	158.9	167.4	173.2
82.5°	73.7	81.7	89.8	97.8	105.7	114.1	122.5	131.0	139.5	148.0	153.8
85°	46.0	54.1	62.1	70.3	78.4	86.7	95.4	104.0	112.8	121.4	127.2
87.5°	26.0	34.2	42.3	50.5	58.7	67.1	75.7	84.4	93.0	101.7	107.5
90°	15.7	24.9	34.1	43.3	52.4	61.7	71.1	80.5	89.8	99.1	105.6
92.5°	26.2	34.7	43.4	52.0	60.7	69.5	78.5	87.6	96.6	105.7	111.5
95°	47.6	55.1	62.7	70.3	77.9	86.1	94.9	103.8	112.6	121.4	127.0
97.5°	73.6	80.1	86.5	92.9	99.4	107.1	116.0	125.0	133.9	142.8	148.3
100°	94.2	99.8	105.3	110.9	116.4	123.6	132.3	141.0	149.8	158.5	164.0
102.5°	116.5	121.2	125.7	130.4	134.9	141.5	149.9	158.4	166.9	175.4	180.8
105°	148.8	152.8	156.8	160.8	164.8	170.6	178.2	185.9	193.6	201.2	206.4
107.5°	184.3	187.7	190.9	194.3	197.6	202.7	209.5	216.3	223.1	230.0	235.1
110°	207.8	210.8	213.8	216.7	219.7	224.5	231.1	237.7	244.3	250.9	255.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	232.3	234.7	237.2	239.6	242.1	246.4	252.6	258.8	265.0	271.2	275.4
115°	269.0	270.8	272.5	274.3	276.0	279.8	285.7	291.6	297.5	303.4	307.4
117.5°	304.4	305.6	306.7	307.9	309.0	312.3	318.0	323.5	329.1	334.6	338.2
120°	327.4	328.6	329.7	330.8	331.9	335.1	340.2	345.4	350.7	355.8	359.0
122.5°	352.1	352.5	352.8	353.1	353.5	356.2	361.3	366.4	371.5	376.6	379.9
125°	387.7	387.5	387.3	387.1	386.9	389.2	393.9	398.5	403.2	407.9	411.3
127.5°	420.6	420.8	421.0	421.2	421.4	423.3	426.7	430.2	433.7	437.2	440.4
130°	443.1	443.4	443.5	443.8	443.9	445.6	448.7	451.8	454.9	458.0	461.1
132.5°	466.8	466.9	467.1	467.2	467.2	468.5	470.8	473.2	475.6	477.9	480.9
135°	497.3	498.1	499.0	499.7	500.5	501.7	503.0	504.3	505.6	507.0	509.8
137.5°	531.4	531.7	531.8	532.0	532.1	532.7	533.6	534.4	535.3	536.2	538.7
140°	554.2	554.2	554.3	554.4	554.5	554.6	554.8	555.1	555.2	555.4	557.7
142.5°	574.3	574.5	574.8	575.0	575.3	575.3	575.0	574.8	574.5	574.4	576.5
145°	602.9	603.3	603.6	604.0	604.3	604.5	604.7	604.9	605.0	605.1	606.1
147.5°	631.5	631.9	632.4	632.8	633.3	633.5	633.4	633.2	633.2	633.1	633.1
150°	648.9	649.3	649.6	650.0	650.3	650.5	650.5	650.5	650.5	650.5	650.5
152.5°	664.7	665.0	665.3	665.5	665.9	666.0	666.1	666.3	666.3	666.4	666.8
155°	689.8	689.8	689.8	689.8	689.8	689.7	689.6	689.5	689.3	689.3	689.7
157.5°	711.1	710.9	710.6	710.4	710.1	710.0	710.0	710.0	710.0	709.9	710.3
160°	723.7	723.6	723.4	723.3	723.2	723.0	722.9	722.8	722.6	722.5	722.9
162.5°	735.3	735.0	734.6	734.3	733.9	733.7	733.5	733.4	733.3	733.1	733.9
165°	751.0	750.6	750.2	749.7	749.3	749.0	748.7	748.4	748.2	747.9	748.7
167.5°	762.9	762.4	761.8	761.2	760.7	760.3	760.4	760.4	760.4	760.5	761.3
170°	769.7	769.0	768.3	767.7	767.0	766.7	766.9	767.0	767.1	767.3	768.1
172.5°	774.5	774.0	773.4	772.8	772.3	772.0	772.0	772.1	772.1	772.1	773.1
175°	781.2	780.5	779.8	779.2	778.5	778.1	778.0	777.8	777.7	777.6	778.5
177.5°	783.3	782.9	782.3	781.8	781.2	781.0	781.0	781.0	781.0	781.0	781.7
180°	782.4	782.4	782.4	782.4	782.4	782.4	782.4	782.4	782.4	782.4	782.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	774.5	774.5	774.5	774.5	774.5	774.5	774.5	774.5
2.5°	771.7	772.8	773.9	774.4	774.2	774.0	773.9	773.7
5°	769.7	771.3	772.7	773.5	773.2	773.1	772.9	772.7
7.5°	765.6	767.3	769.1	769.8	769.6	769.4	769.2	769.1
10°	761.4	763.1	764.9	765.6	765.5	765.2	765.1	764.9
12.5°	755.5	757.2	758.7	759.5	759.5	759.4	759.4	759.3
15°	744.9	746.7	748.4	749.2	749.0	748.8	748.6	748.4
17.5°	732.0	733.8	735.6	736.4	736.2	736.1	735.9	735.7
20°	721.9	723.8	725.8	726.8	726.8	726.8	726.8	726.8
22.5°	710.1	712.0	714.0	715.1	715.4	715.7	716.0	716.3
25°	691.9	694.1	696.2	697.3	697.5	697.7	697.9	698.1
27.5°	671.5	673.4	675.5	676.5	676.8	677.0	677.3	677.4
30°	657.2	659.3	661.5	662.8	663.2	663.5	663.9	664.3
32.5°	642.6	645.1	647.4	648.9	649.2	649.6	650.0	650.4
35°	619.4	622.1	624.8	626.4	627.0	627.5	628.2	628.8
37.5°	595.2	597.9	600.6	602.3	602.9	603.6	604.1	604.8
40°	578.1	581.1	583.9	585.7	586.5	587.3	588.1	588.8
42.5°	561.4	564.6	567.8	569.7	570.3	571.0	571.6	572.2
45°	535.6	538.8	542.1	544.2	545.2	546.2	547.1	548.0
47.5°	508.2	511.6	515.0	517.2	518.4	519.6	520.7	521.9
50°	489.0	492.8	496.7	499.2	500.3	501.6	502.7	503.9
52.5°	469.6	473.4	477.3	479.8	480.9	482.1	483.2	484.5
55°	440.4	444.3	448.2	450.7	451.8	453.0	454.1	455.3
57.5°	409.9	414.4	419.0	421.8	422.9	424.0	425.1	426.2
60°	388.7	393.1	397.5	400.6	402.1	403.7	405.2	406.8
62.5°	367.9	372.3	376.7	379.8	381.3	382.9	384.3	385.9
65°	335.7	340.6	345.4	348.5	350.1	351.6	353.1	354.7
67.5°	304.1	309.0	313.9	317.1	318.6	320.1	321.6	323.1
70°	281.8	287.1	292.3	295.5	296.9	298.2	299.5	300.9
72.5°	260.7	265.8	270.8	274.1	275.6	277.1	278.6	280.1
75°	228.4	233.8	239.3	242.8	244.6	246.3	248.0	249.7
77.5°	198.4	203.9	209.4	213.0	214.9	216.7	218.6	220.5
80°	179.0	184.7	190.5	194.1	195.7	197.2	198.8	200.3
82.5°	159.8	165.8	171.7	175.5	177.2	178.9	180.6	182.3
85°	133.0	138.8	144.6	148.4	150.3	152.2	154.2	156.1
87.5°	113.2	119.0	124.7	128.4	130.2	131.9	133.7	135.4
90°	111.9	118.4	124.7	128.8	130.7	132.5	134.3	136.1
92.5°	117.5	123.4	129.3	133.1	134.9	136.6	138.3	140.0
95°	132.6	138.3	143.9	147.6	149.3	151.0	152.7	154.5
97.5°	153.8	159.4	164.9	168.5	170.2	171.9	173.5	175.1
100°	169.4	174.9	180.3	183.8	185.2	186.5	187.8	189.1
102.5°	186.2	191.6	197.1	200.6	202.2	203.8	205.4	207.0
105°	211.7	217.0	222.2	225.8	227.6	229.6	231.5	233.5
107.5°	240.2	245.3	250.5	253.7	255.0	256.4	257.8	259.1
110°	259.3	263.4	267.6	270.7	272.6	274.5	276.5	278.4





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	279.6	283.9	288.0	291.0	292.6	294.2	295.9	297.5
115°	311.6	315.7	319.8	322.5	323.7	324.9	326.1	327.3
117.5°	341.7	345.3	348.8	351.2	352.5	353.8	355.1	356.3
120°	362.2	365.3	368.5	371.0	372.8	374.6	376.5	378.3
122.5°	383.4	386.8	390.1	392.3	393.2	394.1	395.0	395.9
125°	414.7	418.1	421.5	423.6	424.5	425.4	426.3	427.2
127.5°	443.6	446.8	450.0	452.2	453.2	454.4	455.4	456.6
130°	464.3	467.6	470.8	472.6	473.3	473.9	474.5	475.2
132.5°	484.0	487.1	490.1	492.1	493.0	494.0	494.9	495.9
135°	512.7	515.4	518.3	520.1	520.8	521.5	522.3	523.1
137.5°	541.1	543.6	546.0	547.8	548.9	549.9	550.9	552.0
140°	560.1	562.6	564.9	566.5	567.3	568.2	569.0	569.8
142.5°	578.7	580.8	583.0	584.5	585.3	586.0	586.9	587.7
145°	607.2	608.1	609.2	609.9	610.3	610.7	611.0	611.4
147.5°	633.2	633.2	633.2	633.5	634.0	634.5	635.0	635.4
150°	650.5	650.5	650.5	650.4	650.3	650.1	650.0	649.9
152.5°	667.1	667.4	667.7	667.7	667.4	667.1	666.7	666.3
155°	690.3	690.8	691.4	691.4	690.8	690.3	689.7	689.3
157.5°	710.7	711.1	711.5	711.5	711.0	710.6	710.1	709.6
160°	723.3	723.7	724.1	724.0	723.3	722.6	721.9	721.3
162.5°	734.6	735.3	736.1	736.1	735.4	734.7	734.1	733.4
165°	749.5	750.3	751.1	751.3	750.7	750.2	749.7	749.1
167.5°	762.1	762.9	763.7	763.7	762.9	762.1	761.2	760.3
170°	768.9	769.7	770.5	770.5	769.5	768.6	767.6	766.7
172.5°	774.0	774.9	775.8	775.8	774.8	773.9	772.9	772.0
175°	779.4	780.4	781.3	781.3	780.4	779.4	778.5	777.6
177.5°	782.4	783.2	784.0	783.9	783.0	782.2	781.3	780.5
180°	782.4	782.4	782.4	782.4	782.4	782.4	782.4	782.4

(END OF REPORT)