

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: P332749-830

Luminaire Tested: **S124DIW-S575D470U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332749-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S575D470U830-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 470 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4117.2 lumens
Efficiency: N/A
Efficacy: 136.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

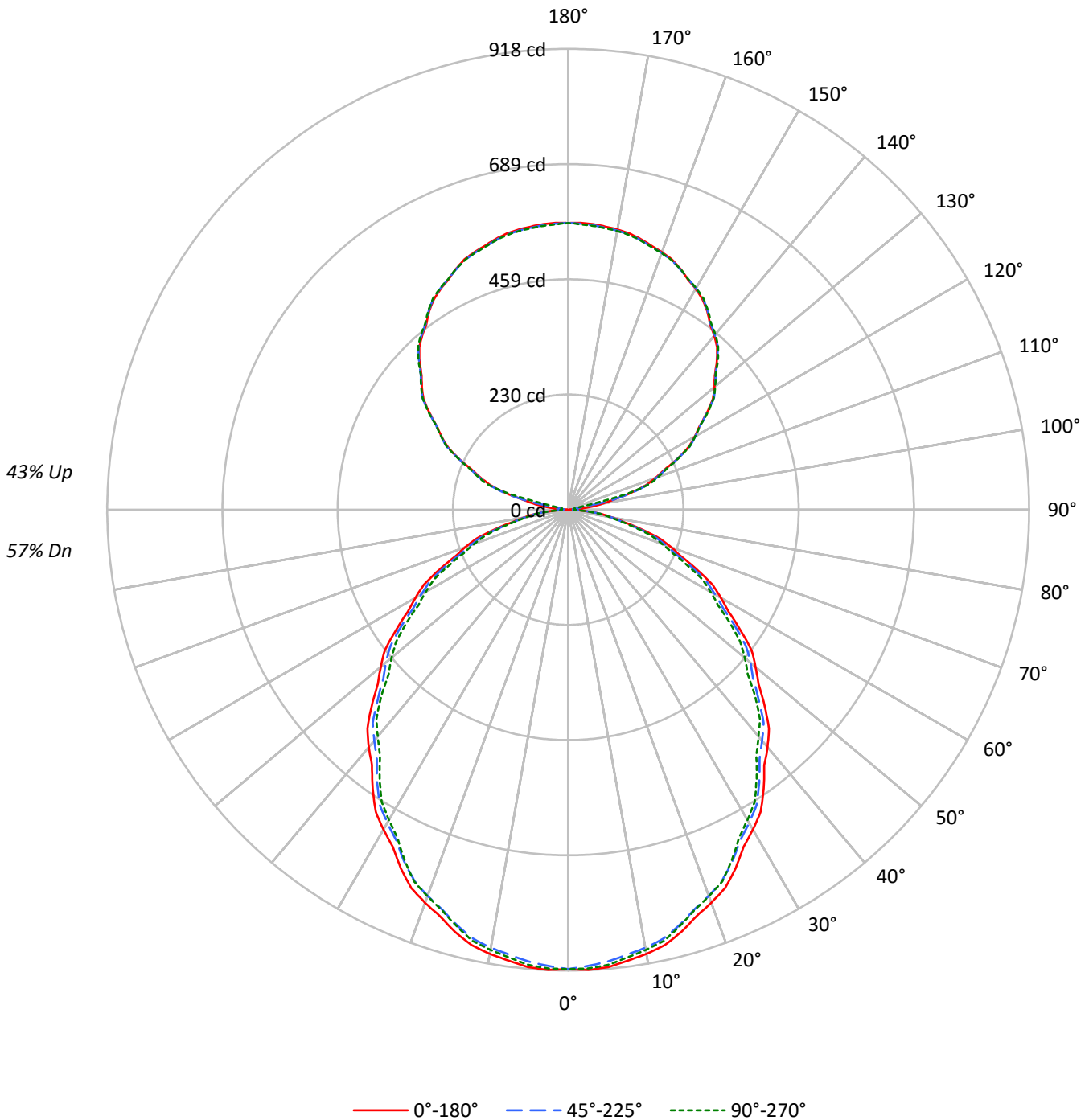
Input Watts (W): 30.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	63	63	63	57
1	99	95	91	87	92	89	85	82	76	74	72	65	64	62	55	54	53	48
2	90	83	77	71	84	77	72	67	67	63	59	57	54	52	49	46	44	40
3	83	73	65	59	76	68	62	56	59	54	50	51	47	44	43	40	38	34
4	76	65	56	50	70	60	53	48	53	47	43	45	41	38	39	35	33	29
5	69	58	49	43	64	54	47	41	47	41	37	41	36	33	35	31	28	25
6	64	52	43	38	59	48	41	36	42	37	32	37	32	29	32	28	25	22
7	59	47	39	33	55	44	37	31	39	33	28	33	29	25	29	25	22	20
8	55	42	35	29	51	40	33	28	35	29	25	31	26	23	26	23	20	18
9	51	39	31	26	48	37	30	25	32	27	23	28	24	20	24	21	18	16
10	48	36	28	23	45	34	27	22	30	24	20	26	22	18	23	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7389	7389	7389
5°	7412	7323	7376
10°	7365	7263	7299
15°	7276	7160	7178
20°	7158	7032	7039
25°	7023	6886	6866
30°	6858	6715	6652
35°	6686	6535	6447
40°	6509	6330	6215
45°	6322	6130	6012
50°	6116	5951	5766
55°	5895	5719	5533
60°	5672	5459	5293
65°	5421	5213	5001
70°	5141	4881	4692
75°	4713	4482	4370
80°	4193	4021	3924
85°	3668	3538	3464



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.2	2.1
10°-20°	242.9	5.9
20°-30°	357.5	8.7
30°-40°	415.6	10.1
40°-50°	415.6	10.1
50°-60°	363.5	8.8
60°-70°	270.0	6.6
70°-80°	153.4	3.7
80°-90°	45.9	1.1
90°-100°	19.5	0.5
100°-110°	124.6	3.0
110°-120°	238.3	5.8
120°-130°	302.4	7.3
130°-140°	323.6	7.9
140°-150°	302.6	7.3
150°-160°	244.0	5.9
160°-170°	157.4	3.8
170°-180°	54.2	1.3
0°-30°	686.6	16.7
0°-40°	1102.1	26.8
0°-60°	1881.3	45.7
0°-90°	2350.6	57.1
90°-120°	382.4	9.3
90°-150°	1311.0	31.8
90°-180°	1767.0	42.9
0°-180°	4117.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	915	915	915	915	915	
5°	915	911	904	911	910	87
15°	871	867	857	861	859	245
25°	788	783	773	774	771	363
35°	678	673	663	658	654	424
45°	554	548	537	529	527	427
55°	419	416	406	398	393	375
65°	284	280	273	266	262	281
75°	151	147	144	141	140	161
85°	40	40	38	38	37	44
90°	1	6	9	12	13	3
95°	24	10	9	12	12	30
105°	129	131	133	136	122	135
115°	240	241	241	242	242	236
125°	337	339	338	340	340	301
135°	419	418	420	421	422	322
145°	483	484	484	484	485	301
155°	529	530	528	530	529	244
165°	558	556	556	559	556	158
175°	571	569	569	572	568	54
180°	571	571	571	571	571	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	915.3	915.3	915.3	915.3	915.3	915.3	915.3	915.3	915.3	915.3	915.3
2.5°	917.7	917.3	916.9	916.5	916.2	915.2	913.8	912.4	910.9	909.5	910.8
5°	914.6	914.0	913.3	912.7	912.0	910.8	909.0	907.2	905.4	903.6	905.4
7.5°	906.1	905.4	904.8	904.2	903.5	902.2	900.2	898.2	896.2	894.2	895.7
10°	898.4	897.9	897.2	896.5	895.9	894.5	892.4	890.2	888.2	886.0	887.3
12.5°	888.5	887.9	887.2	886.6	885.9	884.5	882.2	880.0	877.7	875.4	876.8
15°	870.6	870.0	869.3	868.6	868.0	866.5	864.0	861.6	859.1	856.7	857.6
17.5°	849.0	848.2	847.4	846.6	845.7	844.2	841.9	839.6	837.3	835.0	835.6
20°	833.2	832.4	831.6	830.8	829.9	828.3	825.9	823.4	821.0	818.5	819.0
22.5°	816.1	815.1	814.1	812.9	811.9	810.1	807.7	805.2	802.8	800.3	801.3
25°	788.4	787.3	786.2	785.0	783.9	782.2	779.9	777.6	775.3	773.1	773.3
27.5°	756.8	755.6	754.4	753.3	752.1	750.5	748.3	746.2	744.0	742.0	741.6
30°	735.7	734.3	733.0	731.7	730.5	728.7	726.6	724.4	722.4	720.3	719.6
32.5°	713.3	712.2	711.0	709.8	708.7	706.9	704.7	702.5	700.2	698.0	697.2
35°	678.4	677.3	676.2	675.0	673.9	672.1	669.9	667.6	665.3	663.1	661.9
37.5°	641.6	640.6	639.5	638.5	637.4	635.7	633.3	630.8	628.4	625.9	624.7
40°	617.6	616.2	614.9	613.7	612.4	610.5	608.0	605.6	603.1	600.7	599.1
42.5°	591.7	591.0	590.2	589.4	588.6	586.8	584.2	581.5	578.7	576.1	574.2
45°	553.7	552.6	551.5	550.4	549.2	547.3	544.7	542.1	539.5	536.9	535.1
47.5°	514.0	513.2	512.5	511.6	510.9	509.3	506.9	504.4	502.0	499.6	497.6
50°	487.0	486.4	485.7	485.0	484.4	483.0	480.7	478.3	476.1	473.8	471.6
52.5°	460.6	459.9	459.0	458.3	457.5	455.9	453.5	451.1	448.7	446.2	444.2
55°	418.8	418.3	417.8	417.4	416.9	415.5	413.2	410.9	408.6	406.3	404.4
57.5°	378.9	378.3	377.8	377.2	376.6	375.3	373.1	370.8	368.5	366.3	364.4
60°	351.3	350.5	349.7	348.8	348.1	346.6	344.5	342.3	340.3	338.1	336.7
62.5°	324.3	323.7	322.9	322.3	321.6	320.1	317.9	315.7	313.4	311.1	309.8
65°	283.8	283.0	282.2	281.4	280.6	279.4	277.8	276.1	274.5	272.9	271.2
67.5°	243.1	242.3	241.6	240.8	240.1	238.9	237.3	235.8	234.2	232.6	231.1
70°	217.8	216.7	215.6	214.4	213.3	212.1	210.8	209.4	208.1	206.8	205.6
72.5°	190.9	189.7	188.6	187.4	186.2	185.2	184.2	183.1	182.1	181.0	179.9
75°	151.1	150.2	149.5	148.6	147.8	147.0	146.2	145.3	144.6	143.7	143.1
77.5°	113.1	112.7	112.4	112.1	111.7	111.1	110.4	109.7	109.0	108.3	108.0
80°	90.2	89.7	89.3	88.8	88.2	87.8	87.6	87.2	86.9	86.5	86.2
82.5°	68.0	67.7	67.5	67.2	67.0	66.8	66.8	66.7	66.6	66.6	66.4
85°	39.6	39.6	39.6	39.6	39.6	39.4	39.1	38.8	38.5	38.2	38.2
87.5°	15.6	15.6	15.6	15.7	15.8	15.8	15.9	15.9	15.9	15.9	16.1
90°	1.3	2.4	3.4	4.4	5.5	6.3	7.2	7.9	8.7	9.4	10.0
92.5°	5.4	5.5	5.5	5.6	5.7	6.0	6.8	7.5	8.3	9.0	9.6
95°	23.5	20.3	17.1	13.9	10.6	9.0	9.1	9.2	9.3	9.4	10.0
97.5°	49.9	51.9	53.9	55.9	58.0	53.6	43.1	32.4	21.9	11.3	11.3
100°	70.0	71.7	73.5	75.2	76.9	71.2	58.1	45.0	31.9	18.8	17.2
102.5°	92.7	93.9	95.1	96.3	97.6	97.4	95.7	94.0	92.3	90.6	73.1
105°	128.6	129.1	129.7	130.3	130.8	131.4	131.9	132.3	132.8	133.3	134.1
107.5°	162.0	162.3	162.6	162.9	163.2	163.6	164.2	164.9	165.5	166.2	166.5
110°	184.5	184.8	185.1	185.4	185.7	186.1	186.6	187.3	187.8	188.4	188.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	206.4	206.9	207.5	207.9	208.5	208.9	209.2	209.3	209.6	209.9	209.9
115°	240.1	240.3	240.6	240.9	241.2	241.3	241.2	241.1	241.0	240.9	241.1
117.5°	270.4	270.8	271.2	271.5	271.9	272.2	272.4	272.6	272.9	273.1	273.0
120°	290.9	291.2	291.6	292.0	292.4	292.6	292.5	292.4	292.3	292.2	292.4
122.5°	310.0	310.3	310.5	310.8	310.9	311.1	311.2	311.4	311.5	311.7	311.8
125°	337.4	337.8	338.2	338.6	338.9	339.0	338.8	338.7	338.5	338.3	338.6
127.5°	363.4	363.5	363.6	363.7	363.8	364.1	364.5	365.0	365.4	365.8	365.8
130°	380.1	380.2	380.4	380.5	380.6	380.8	381.1	381.4	381.6	381.9	382.0
132.5°	395.6	395.7	395.9	396.1	396.2	396.5	396.9	397.2	397.6	397.9	398.0
135°	418.6	418.5	418.4	418.3	418.2	418.4	418.8	419.1	419.5	419.9	420.1
137.5°	439.0	439.0	439.1	439.1	439.2	439.4	439.8	440.3	440.6	441.1	441.3
140°	452.3	452.5	452.7	452.9	453.1	453.3	453.5	453.7	453.9	454.1	454.4
142.5°	464.3	464.7	465.1	465.3	465.7	465.9	466.0	466.2	466.3	466.4	466.6
145°	482.7	483.0	483.2	483.5	483.8	484.0	484.0	484.0	484.0	484.0	484.1
147.5°	497.3	497.9	498.3	498.9	499.5	499.6	499.5	499.5	499.4	499.3	499.4
150°	507.9	508.3	508.7	509.1	509.4	509.5	509.4	509.3	509.3	509.2	509.2
152.5°	516.8	517.1	517.4	517.6	518.0	518.0	517.9	517.7	517.6	517.4	517.6
155°	529.2	529.3	529.4	529.5	529.6	529.5	529.2	529.0	528.7	528.4	528.8
157.5°	539.8	539.7	539.6	539.6	539.5	539.3	539.0	538.7	538.4	538.1	538.6
160°	545.9	545.6	545.4	545.1	544.8	544.6	544.5	544.4	544.3	544.2	544.8
162.5°	551.4	551.0	550.6	550.3	550.0	549.7	549.6	549.5	549.4	549.3	549.9
165°	558.3	557.8	557.3	556.9	556.4	556.2	556.2	556.2	556.2	556.2	556.9
167.5°	563.7	563.3	562.8	562.3	561.8	561.5	561.5	561.4	561.4	561.3	562.1
170°	566.8	566.3	565.7	565.1	564.6	564.3	564.4	564.5	564.6	564.7	565.4
172.5°	568.9	568.4	567.8	567.2	566.7	566.4	566.5	566.6	566.7	566.8	567.5
175°	571.1	570.5	570.0	569.4	568.8	568.6	568.7	568.8	568.9	569.0	569.9
177.5°	572.1	571.7	571.1	570.5	570.0	569.9	570.0	570.1	570.2	570.4	571.0
180°	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	915.3	915.3	915.3	915.3	915.3	915.3	915.3	915.3
2.5°	912.1	913.4	914.7	915.3	915.1	915.0	914.9	914.7
5°	907.2	909.0	910.8	911.5	911.2	910.9	910.5	910.2
7.5°	897.1	898.5	899.9	900.6	900.4	900.2	900.0	899.8
10°	888.6	889.9	891.3	891.7	891.4	891.1	890.7	890.4
12.5°	878.4	879.8	881.2	881.7	881.2	880.7	880.3	879.9
15°	858.7	859.6	860.5	860.8	860.4	859.9	859.3	858.8
17.5°	836.2	836.8	837.4	837.5	837.3	836.9	836.6	836.3
20°	819.5	820.0	820.5	820.6	820.2	819.9	819.6	819.3
22.5°	802.1	803.0	803.9	804.0	803.4	802.9	802.3	801.6
25°	773.4	773.5	773.7	773.5	772.8	772.1	771.5	770.8
27.5°	741.2	740.7	740.4	739.8	739.0	738.2	737.4	736.5
30°	719.0	718.3	717.7	716.9	716.0	715.3	714.4	713.6
32.5°	696.4	695.6	694.8	694.0	693.2	692.4	691.5	690.8
35°	660.7	659.6	658.5	657.5	656.7	655.8	655.1	654.2
37.5°	623.5	622.2	620.9	619.8	618.8	617.6	616.6	615.5
40°	597.5	595.8	594.2	593.0	592.1	591.4	590.5	589.7
42.5°	572.3	570.3	568.4	567.2	566.8	566.2	565.6	565.1
45°	533.3	531.5	529.7	528.6	528.1	527.6	527.1	526.6
47.5°	495.6	493.5	491.5	489.9	488.7	487.4	486.2	484.9
50°	469.2	466.9	464.7	463.1	462.0	461.1	460.1	459.1
52.5°	442.1	440.2	438.2	436.5	435.3	434.0	432.8	431.6
55°	402.5	400.5	398.5	397.0	396.1	395.1	394.1	393.1
57.5°	362.6	360.7	358.8	357.4	356.5	355.5	354.6	353.6
60°	335.2	333.8	332.2	331.1	330.3	329.5	328.7	327.8
62.5°	308.5	307.1	305.8	304.7	303.9	303.1	302.3	301.4
65°	269.6	268.0	266.4	265.1	264.3	263.4	262.7	261.8
67.5°	229.5	228.0	226.4	225.5	225.3	225.1	224.8	224.6
70°	204.2	202.9	201.6	200.8	200.2	199.7	199.3	198.8
72.5°	178.9	177.9	176.8	176.1	175.6	175.1	174.7	174.1
75°	142.4	141.8	141.2	140.7	140.5	140.4	140.3	140.1
77.5°	107.8	107.6	107.4	107.2	106.7	106.3	105.8	105.5
80°	85.9	85.6	85.2	85.0	84.8	84.6	84.5	84.4
82.5°	66.2	66.0	65.8	65.6	65.5	65.3	65.1	64.9
85°	38.2	38.2	38.2	38.1	37.9	37.7	37.6	37.4
87.5°	16.2	16.3	16.4	16.5	16.5	16.6	16.6	16.7
90°	10.6	11.1	11.7	12.1	12.3	12.4	12.6	12.8
92.5°	10.2	10.7	11.3	11.6	11.7	11.7	11.8	11.8
95°	10.6	11.1	11.7	12.0	12.1	12.2	12.3	12.3
97.5°	11.4	11.4	11.5	11.6	11.7	11.8	11.9	12.0
100°	15.6	13.9	12.3	11.6	11.7	11.8	11.9	12.0
102.5°	55.7	38.4	20.9	12.3	12.3	12.3	12.3	12.3
105°	135.0	135.8	136.7	135.4	132.0	128.6	125.2	121.8
107.5°	167.0	167.4	167.9	168.2	168.6	168.9	169.3	169.7
110°	188.8	189.0	189.2	189.4	189.6	189.9	190.2	190.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	209.8	209.8	209.7	209.9	210.3	210.7	211.0	211.3
115°	241.3	241.5	241.7	241.8	241.8	241.8	241.8	241.8
117.5°	273.0	273.0	272.9	272.9	272.8	272.8	272.8	272.7
120°	292.6	292.8	292.9	292.9	292.8	292.6	292.4	292.2
122.5°	311.9	312.0	312.1	312.1	311.9	311.7	311.5	311.3
125°	338.8	339.1	339.4	339.6	339.7	339.8	339.9	340.0
127.5°	365.7	365.6	365.6	365.5	365.4	365.3	365.3	365.2
130°	382.1	382.2	382.3	382.3	382.3	382.3	382.3	382.3
132.5°	398.1	398.2	398.3	398.3	398.2	398.2	398.1	398.0
135°	420.3	420.5	420.7	420.8	421.0	421.2	421.4	421.6
137.5°	441.5	441.7	442.0	442.0	442.0	441.9	441.9	441.8
140°	454.7	455.0	455.2	455.4	455.5	455.6	455.7	455.8
142.5°	466.7	467.0	467.2	467.3	467.3	467.4	467.4	467.4
145°	484.2	484.3	484.4	484.5	484.7	484.8	485.0	485.2
147.5°	499.5	499.5	499.5	499.6	499.7	499.8	499.9	500.0
150°	509.2	509.2	509.2	509.3	509.3	509.4	509.5	509.6
152.5°	517.6	517.8	518.0	518.0	518.0	517.9	517.8	517.8
155°	529.1	529.5	529.9	530.0	529.7	529.4	529.1	528.9
157.5°	539.0	539.5	540.0	540.0	539.5	539.0	538.6	538.1
160°	545.4	545.9	546.5	546.5	545.9	545.4	544.8	544.2
162.5°	550.4	551.0	551.6	551.6	550.9	550.3	549.6	549.0
165°	557.7	558.5	559.2	559.1	558.3	557.4	556.6	555.7
167.5°	563.0	563.8	564.7	564.6	563.6	562.7	561.8	560.8
170°	566.2	566.9	567.8	567.7	566.7	565.7	564.8	563.8
172.5°	568.3	569.0	569.8	569.7	568.6	567.6	566.6	565.5
175°	570.7	571.6	572.4	572.2	571.1	570.0	568.8	567.7
177.5°	571.7	572.2	572.9	572.7	571.8	570.9	570.0	569.1
180°	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1

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