

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: P331656

Luminaire Tested: **SA2XXRDIP-C485D530U835-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331656
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C485D530U835-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

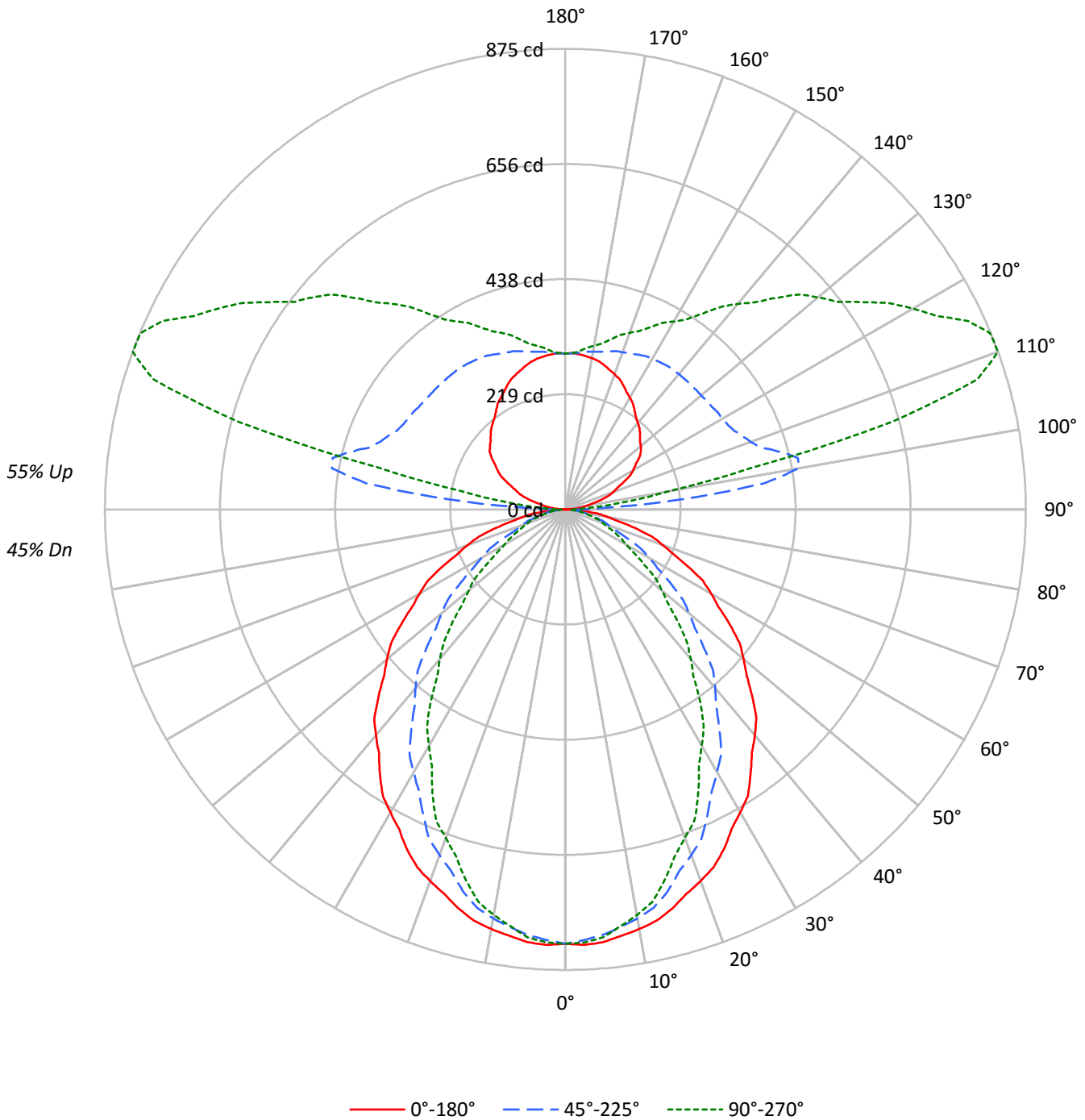
Lumens per Lamp: N/A
Luminaire Lumens: 3763.6 lumens
Efficiency: N/A
Efficacy: 114.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 32.8
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	50	30	10	0	
RCR																						
0	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	45				
1	97	93	89	86	89	85	82	79	71	69	67	58	57	55	46	45	44	39				
2	89	82	76	71	81	75	70	66	63	59	56	52	49	47	41	40	38	33				
3	81	72	65	60	74	67	60	56	56	51	48	46	43	40	37	35	33	29				
4	75	64	57	51	68	59	53	47	50	45	41	41	38	35	33	31	29	25				
5	69	57	49	44	63	53	46	41	45	40	36	37	33	30	30	27	25	22				
6	63	52	44	38	58	48	41	36	41	35	31	34	30	27	28	25	22	20				
7	59	47	39	34	54	43	36	32	37	32	28	31	27	24	25	22	20	17				
8	54	42	35	30	50	39	33	28	34	28	25	28	24	21	23	20	18	16				
9	51	39	32	27	47	36	30	25	31	26	22	26	22	19	22	19	17	14				
10	47	36	29	24	44	33	27	23	29	24	20	24	20	18	20	17	15	13				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13324	13324	13324
5°	13374	13157	13230
10°	13273	12942	12832
15°	13120	12558	12197
20°	12909	12010	11407
25°	12693	11389	10644
30°	12392	10750	9663
35°	12100	10054	8803
40°	11805	9335	7807
45°	11460	8526	6907
50°	11105	7709	6021
55°	10742	6832	5171
60°	10320	5909	4292
65°	9845	4963	3908
70°	9272	4088	3597
75°	8571	3724	3356
80°	7569	3329	3059
85°	5947	2631	2631



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.2	2.1
10°-20°	212.1	5.6
20°-30°	297.8	7.9
30°-40°	324.8	8.6
40°-50°	298.6	7.9
50°-60°	234.5	6.2
60°-70°	152.9	4.1
70°-80°	78.8	2.1
80°-90°	23.1	0.6
90°-100°	118.6	3.2
100°-110°	402.4	10.7
110°-120°	427.5	11.4
120°-130°	351.9	9.3
130°-140°	282.6	7.5
140°-150°	213.5	5.7
150°-160°	150.1	4.0
160°-170°	88.3	2.3
170°-180°	28.8	0.8
0°-30°	587.2	15.6
0°-40°	912.0	24.2
0°-60°	1445.1	38.4
0°-90°	1700.0	45.2
90°-120°	948.4	25.2
90°-150°	1796.4	47.7
90°-180°	2064.0	54.8
0°-180°	3763.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	825	825	825	825	825	
5°	825	821	812	818	816	78
15°	785	776	751	738	730	221
25°	712	687	639	610	598	327
35°	614	574	510	465	447	384
45°	502	450	373	322	302	387
55°	382	322	243	200	184	341
65°	258	197	130	106	102	255
75°	137	87	60	55	54	145
85°	32	17	14	14	14	38
90°	1	8	19	18	19	2
95°	20	49	224	84	65	21
105°	70	105	423	755	643	74
115°	123	155	354	730	846	122
125°	171	202	340	591	686	152
135°	201	240	336	497	569	155
145°	229	263	334	415	454	144
155°	261	281	324	367	382	120
165°	284	293	311	330	335	80
175°	296	296	299	303	302	28
180°	296	296	296	296	296	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	825.2	825.2	825.2	825.2	825.2	825.2	825.2	825.2	825.2	825.2	825.2
2.5°	828.2	827.6	826.9	826.2	825.6	824.5	823.1	821.6	820.1	818.7	820.0
5°	825.2	824.4	823.6	822.8	821.9	820.4	818.3	816.1	814.0	811.8	813.3
7.5°	816.7	815.7	814.7	813.6	812.6	810.8	808.3	805.8	803.3	800.8	801.2
10°	809.6	808.4	807.2	806.1	804.9	802.7	799.4	796.0	792.7	789.4	788.9
12.5°	800.6	799.2	797.7	796.3	794.9	792.1	787.8	783.6	779.3	775.1	774.2
15°	784.9	783.1	781.3	779.4	777.6	773.9	768.2	762.6	757.0	751.3	748.2
17.5°	765.7	762.9	760.1	757.3	754.5	749.5	742.3	735.0	727.8	720.5	716.8
20°	751.3	748.0	744.7	741.4	738.0	732.2	723.9	715.6	707.3	699.0	694.9
22.5°	735.8	732.1	728.3	724.6	720.9	714.4	705.0	695.6	686.3	676.9	671.6
25°	712.5	707.2	701.9	696.5	691.2	683.1	672.1	661.2	650.2	639.3	632.5
27.5°	684.4	678.6	672.8	667.1	661.3	652.2	639.9	627.5	615.2	602.8	594.9
30°	664.7	658.4	652.1	645.8	639.5	629.7	616.4	603.1	589.8	576.6	568.1
32.5°	645.6	638.2	630.8	623.5	616.1	605.6	592.1	578.5	565.0	551.5	541.8
35°	613.9	605.4	597.0	588.5	580.0	568.5	553.9	539.3	524.7	510.1	499.6
37.5°	582.2	572.9	563.6	554.3	545.1	532.6	517.1	501.5	485.9	470.4	458.8
40°	560.1	550.2	540.2	530.3	520.3	507.3	491.2	475.1	459.0	442.9	431.1
42.5°	537.4	526.9	516.4	506.0	495.5	481.9	465.3	448.6	432.0	415.4	403.2
45°	501.9	490.8	479.6	468.5	457.4	443.1	425.7	408.3	390.8	373.4	361.6
47.5°	467.2	455.4	443.7	431.9	420.1	405.2	387.2	369.2	351.2	333.2	321.5
50°	442.1	430.3	418.6	406.8	395.0	380.0	361.7	343.5	325.2	306.9	295.5
52.5°	417.6	405.3	393.0	380.7	368.4	353.3	335.4	317.6	299.7	281.9	270.8
55°	381.6	368.7	355.7	342.8	329.9	314.4	296.5	278.6	260.6	242.7	232.8
57.5°	344.7	331.5	318.2	304.9	291.6	276.4	259.2	241.9	224.7	207.5	198.3
60°	319.6	306.4	293.1	279.8	266.5	251.4	234.3	217.2	200.1	183.0	174.5
62.5°	295.1	281.9	268.6	255.3	242.0	227.3	211.0	194.7	178.4	162.1	154.0
65°	257.7	244.2	230.8	217.3	203.9	189.7	174.8	159.8	144.9	129.9	124.3
67.5°	221.5	208.2	194.8	181.5	168.1	154.7	141.3	127.9	114.4	101.0	98.4
70°	196.4	183.5	170.5	157.6	144.6	132.4	121.0	109.5	98.1	86.6	85.0
72.5°	172.5	160.1	147.7	135.3	122.9	112.1	102.9	93.7	84.5	75.3	73.9
75°	137.4	125.8	114.2	102.6	90.9	82.3	76.7	71.0	65.4	59.7	58.6
77.5°	102.9	92.7	82.5	72.3	62.2	55.7	53.0	50.3	47.5	44.8	44.1
80°	81.4	72.9	64.5	56.0	47.5	42.5	40.8	39.2	37.5	35.8	35.2
82.5°	61.7	55.1	48.5	41.9	35.3	31.4	30.3	29.1	28.0	26.9	26.5
85°	32.1	28.6	25.1	21.7	18.2	16.2	15.7	15.2	14.7	14.2	14.2
87.5°	9.7	9.0	8.3	7.5	6.7	6.5	7.1	7.9	8.5	8.7	8.4
90°	0.6	2.3	4.6	5.7	6.8	8.6	11.4	15.4	18.8	19.4	18.8
92.5°	7.0	10.0	14.1	16.7	20.5	25.9	38.8	56.9	73.1	74.1	62.6
95°	20.0	22.2	27.9	33.1	42.2	55.9	82.1	131.7	197.9	223.6	195.6
97.5°	32.5	35.6	41.6	49.4	59.9	75.4	108.4	177.5	287.4	381.6	400.3
100°	43.9	45.6	50.8	59.9	71.3	87.3	117.5	187.1	310.2	450.5	532.6
102.5°	54.4	55.7	60.8	69.9	81.8	97.7	125.7	187.5	301.6	452.8	581.9
105°	69.6	71.9	75.8	84.4	96.9	112.9	139.7	190.5	284.6	422.6	574.3
107.5°	86.0	87.8	91.7	99.6	112.0	128.1	154.1	198.3	276.1	390.2	524.2
110°	96.9	99.2	102.7	110.1	122.0	138.6	163.7	204.7	274.3	374.7	492.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	107.0	109.3	113.1	120.1	131.6	148.6	172.8	211.6	274.8	364.6	470.8
115°	122.6	125.5	128.9	135.7	147.1	162.5	187.1	221.8	277.2	353.6	443.7
117.5°	138.8	141.1	144.5	150.6	161.5	177.5	200.2	232.8	281.3	348.2	426.6
120°	148.8	151.1	154.5	159.7	171.1	187.1	209.3	240.1	284.0	345.0	417.5
122.5°	158.4	160.3	163.7	169.3	180.7	197.1	218.0	246.5	287.2	343.2	409.7
125°	171.1	172.8	176.2	183.1	194.5	210.4	231.0	256.6	292.0	339.9	398.6
127.5°	181.1	183.4	188.2	195.7	206.7	223.1	243.1	266.1	296.9	338.0	388.4
130°	187.1	189.3	195.0	203.0	214.4	230.4	250.4	272.0	300.5	337.0	381.5
132.5°	192.5	195.3	201.4	209.9	221.7	237.7	256.7	278.0	304.2	336.6	376.0
135°	200.7	203.0	209.9	218.4	231.5	247.5	265.8	285.7	308.5	335.9	368.4
137.5°	208.5	211.2	218.1	227.2	240.2	255.0	273.1	291.6	312.4	335.8	363.0
140°	214.4	216.7	223.6	232.7	245.2	260.1	277.2	294.8	314.2	335.3	359.9
142.5°	220.4	222.2	228.6	237.7	249.8	263.7	280.4	297.6	315.6	335.3	356.7
145°	229.3	231.5	237.2	245.8	257.2	269.7	285.1	301.1	317.1	334.2	352.4
147.5°	238.8	240.5	246.0	253.9	263.4	274.5	289.0	303.1	317.5	332.1	348.1
150°	245.2	246.9	251.5	258.9	267.5	277.7	290.8	304.0	317.1	330.8	344.5
152.5°	251.6	252.4	257.0	263.5	271.6	280.9	292.7	304.4	316.2	328.5	341.3
155°	260.6	261.2	264.6	270.9	277.2	285.7	295.4	305.1	314.8	324.5	335.3
157.5°	268.1	268.7	271.5	276.9	282.0	289.1	297.3	305.1	312.2	320.4	329.7
160°	273.2	273.7	276.0	280.6	285.1	291.4	298.3	305.1	310.8	317.7	325.6
162.5°	278.2	277.8	280.1	283.8	287.9	292.8	298.7	304.6	309.4	315.4	322.0
165°	284.0	283.4	284.6	288.0	290.8	294.3	299.4	303.4	306.8	310.8	315.9
167.5°	288.8	288.1	289.1	291.3	293.4	295.5	299.3	302.6	304.2	306.8	310.0
170°	292.0	290.8	291.4	293.1	294.3	296.0	298.8	301.7	302.8	304.5	306.8
172.5°	293.8	293.1	292.8	294.5	295.2	296.4	298.4	300.3	301.0	301.8	303.6
175°	296.0	295.4	294.8	296.0	296.0	296.5	297.7	298.8	298.3	298.8	299.4
177.5°	297.0	296.1	295.6	296.5	296.5	296.5	297.0	297.9	297.0	296.5	297.0
180°	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	825.2	825.2	825.2	825.2	825.2	825.2	825.2	825.2
2.5°	821.3	822.7	824.0	824.5	824.3	824.0	823.7	823.5
5°	814.8	816.3	817.8	818.3	817.8	817.3	816.8	816.3
7.5°	801.6	802.0	802.5	802.3	801.4	800.5	799.7	798.8
10°	788.4	787.9	787.4	786.7	785.7	784.7	783.7	782.7
12.5°	773.3	772.4	771.5	770.2	768.5	766.9	765.2	763.6
15°	745.0	741.9	738.7	736.3	734.6	733.0	731.3	729.7
17.5°	713.0	709.3	705.5	702.2	699.4	696.5	693.7	690.8
20°	690.7	686.6	682.4	678.5	674.9	671.2	667.6	663.9
22.5°	666.2	660.9	655.6	651.5	648.8	646.1	643.4	640.6
25°	625.7	618.9	612.1	607.4	604.9	602.4	600.0	597.5
27.5°	587.0	579.0	571.1	565.2	561.2	557.3	553.3	549.4
30°	559.6	551.2	542.7	536.2	531.7	527.3	522.8	518.3
32.5°	532.1	522.5	512.8	505.9	501.7	497.5	493.2	489.0
35°	489.2	478.7	468.3	461.2	457.6	453.9	450.3	446.6
37.5°	447.3	435.8	424.3	416.4	412.3	408.1	403.9	399.7
40°	419.3	407.5	395.7	387.7	383.4	379.1	374.7	370.4
42.5°	391.0	378.8	366.7	358.5	354.3	350.1	345.9	341.7
45°	349.8	338.1	326.3	318.4	314.4	310.4	306.4	302.5
47.5°	309.8	298.1	286.4	278.7	275.1	271.5	267.8	264.2
50°	284.0	272.6	261.1	253.7	250.2	246.7	243.2	239.7
52.5°	259.7	248.7	237.6	230.5	227.3	224.1	220.8	217.6
55°	222.8	212.8	202.9	196.3	193.2	190.0	186.9	183.7
57.5°	189.2	180.1	171.0	165.1	162.4	159.8	157.1	154.4
60°	166.0	157.6	149.1	143.6	140.9	138.2	135.6	132.9
62.5°	145.9	137.9	129.8	125.0	123.4	121.8	120.2	118.6
65°	118.7	113.0	107.4	104.3	103.8	103.3	102.8	102.3
67.5°	95.8	93.2	90.6	89.1	88.5	88.0	87.5	86.9
70°	83.3	81.7	80.0	78.8	78.2	77.5	76.8	76.2
72.5°	72.5	71.1	69.7	68.8	68.4	68.0	67.6	67.2
75°	57.4	56.3	55.1	54.4	54.3	54.1	53.9	53.8
77.5°	43.5	42.8	42.2	41.7	41.4	41.2	40.9	40.6
80°	34.5	33.9	33.2	32.9	32.9	32.9	32.9	32.9
82.5°	26.1	25.7	25.3	25.1	25.1	25.1	25.1	25.1
85°	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2
87.5°	8.2	7.8	7.9	7.9	7.9	7.9	7.9	7.9
90°	18.2	17.1	18.2	18.8	18.8	18.8	18.8	18.8
92.5°	49.7	42.7	37.9	34.3	33.9	32.1	32.5	31.6
95°	149.4	114.6	90.7	78.1	70.7	66.2	64.4	65.0
97.5°	348.7	285.3	223.6	182.4	155.1	141.1	132.8	128.0
100°	520.7	450.0	371.8	302.8	255.5	231.0	214.4	204.2
102.5°	633.4	617.4	560.3	487.1	435.7	393.8	373.2	359.3
105°	692.9	757.3	764.8	745.9	710.6	675.2	650.7	642.7
107.5°	650.0	747.1	806.4	834.0	838.4	836.5	831.6	821.0
110°	613.1	715.1	788.1	834.9	859.4	870.3	875.4	874.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	579.3	677.3	755.3	808.9	843.0	861.1	870.8	873.9
115°	537.8	625.6	700.3	759.1	799.5	825.8	840.6	845.7
117.5°	506.5	583.6	651.4	706.5	747.8	775.5	791.1	795.4
120°	491.0	561.7	622.2	674.1	714.0	740.8	757.3	763.0
122.5°	478.7	543.5	600.7	647.6	683.4	709.8	724.5	729.3
125°	460.8	519.5	569.7	612.5	645.6	667.2	681.5	686.1
127.5°	443.1	496.3	543.6	583.1	611.9	632.2	644.5	648.2
130°	431.7	480.8	525.8	563.4	591.4	610.8	622.2	626.7
132.5°	420.8	466.2	507.6	542.9	570.4	589.8	600.3	604.4
135°	405.5	443.1	480.8	512.7	537.2	556.0	566.3	568.6
137.5°	393.3	424.8	454.6	482.5	504.8	521.0	530.0	533.4
140°	385.5	412.9	439.1	464.2	482.5	497.3	505.8	509.3
142.5°	379.1	402.4	425.0	446.0	463.3	476.8	484.4	485.1
145°	370.1	388.9	406.6	423.2	436.8	446.5	452.2	453.9
147.5°	363.2	378.0	391.8	403.9	415.2	422.9	426.8	427.8
150°	358.1	370.7	382.7	392.9	401.5	408.3	411.7	412.3
152.5°	353.1	364.8	374.9	383.8	390.5	396.5	399.0	399.1
155°	346.2	355.3	363.8	370.1	376.4	380.4	382.7	381.5
157.5°	338.1	345.7	352.9	357.8	362.2	365.6	366.6	366.6
160°	333.0	339.3	345.6	349.6	353.6	356.4	357.0	357.0
162.5°	328.0	333.4	338.8	341.8	345.8	347.8	348.3	347.9
165°	320.5	324.5	328.5	330.8	333.0	335.3	335.3	334.8
167.5°	313.3	316.4	319.1	321.2	322.2	323.5	323.4	322.7
170°	309.7	311.4	313.7	314.8	315.4	317.1	316.5	315.4
172.5°	305.6	306.8	308.6	309.3	309.9	310.7	310.1	309.4
175°	301.1	301.7	302.3	302.8	302.8	303.4	302.8	301.7
177.5°	297.9	297.9	298.4	298.4	298.4	298.4	297.9	297.0
180°	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5

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