

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: P331416-927

Luminaire Tested: **S122DIP-S865D1080U927-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331416-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S865D1080U927-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6101.4 lumens  
Efficiency: N/A  
Efficacy: 93.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

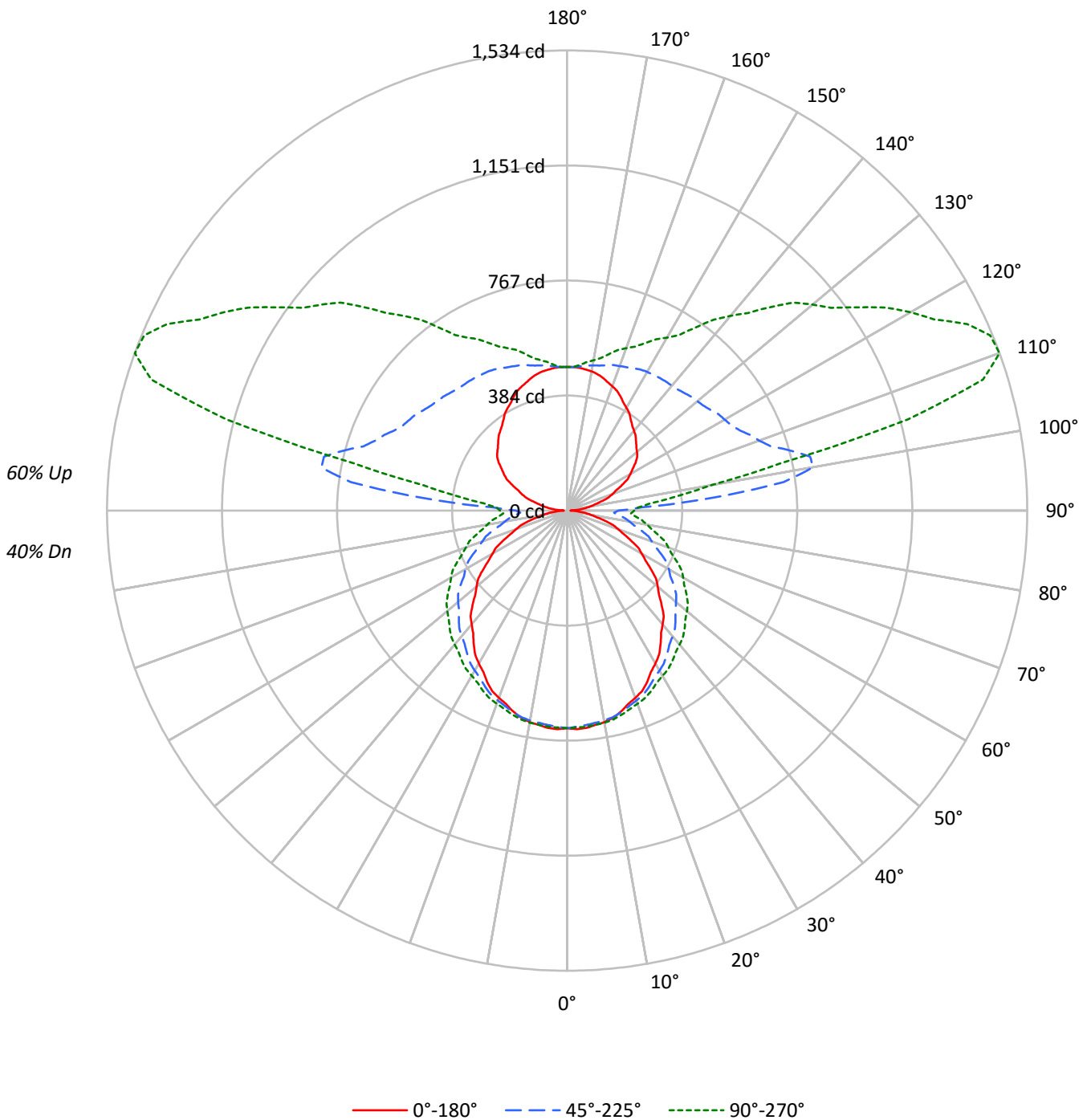
Input Watts (W): 65.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	94	90	85	81	86	82	78	75	66	64	61	53	51	49	40	39	37	31
2	85	78	71	65	77	71	65	60	58	53	50	45	43	40	34	32	31	25
3	78	68	60	54	70	62	55	50	50	45	41	40	36	33	30	28	26	21
4	71	60	51	45	64	54	47	42	44	39	35	35	31	28	27	24	22	18
5	65	53	45	38	59	48	41	35	40	34	30	31	27	24	24	21	19	15
6	60	47	39	33	54	43	36	31	35	30	26	28	24	21	21	19	16	13
7	55	42	34	29	50	39	32	27	32	26	22	26	21	18	20	17	14	12
8	51	38	31	25	46	35	28	23	29	24	20	23	19	16	18	15	13	10
9	47	35	27	22	43	32	25	21	27	21	18	21	17	14	16	14	11	9
10	44	32	25	20	40	29	23	18	24	19	16	20	16	13	15	12	10	8

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

	0°	45°	90°
0°	11711	11711	11711
5°	11768	11274	11230
10°	11694	10940	10818
15°	11533	10587	10382
20°	11328	10209	9963
25°	11128	9845	9582
30°	10845	9471	9201
35°	10557	9109	8932
40°	10256	8801	8662
45°	9969	8526	8433
50°	9662	8276	8207
55°	9341	8008	7975
60°	8945	7730	7732
65°	8536	7405	7441
70°	8073	7053	7130
75°	7484	6710	6841
80°	6553	6361	6548
85°	5671	6056	6323



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.7	1.1
10°-20°	197.1	3.2
20°-30°	298.7	4.9
30°-40°	363.8	6.0
40°-50°	391.3	6.4
50°-60°	380.0	6.2
60°-70°	331.8	5.4
70°-80°	255.5	4.2
80°-90°	175.8	2.9
90°-100°	309.5	5.1
100°-110°	735.5	12.1
110°-120°	746.7	12.2
120°-130°	599.6	9.8
130°-140°	469.3	7.7
140°-150°	346.9	5.7
150°-160°	242.2	4.0
160°-170°	142.6	2.3
170°-180°	46.4	0.8
0°-30°	564.5	9.3
0°-40°	928.2	15.2
0°-60°	1699.6	27.9
0°-90°	2462.7	40.4
90°-120°	1791.7	29.4
90°-150°	3207.6	52.6
90°-180°	3639.0	59.6
0°-180°	6101.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	725	725	725	725	725	
5°	727	724	718	724	723	69
15°	694	696	696	705	704	195
25°	631	638	648	660	663	290
35°	543	562	581	604	612	340
45°	446	475	511	542	554	344
55°	342	380	434	471	486	305
65°	233	286	347	388	404	232
75°	129	189	255	299	314	137
85°	38	103	170	213	229	41
90°	11	84	170	209	224	9
95°	41	138	482	296	278	41
105°	118	206	772	1345	1176	125
115°	202	268	634	1271	1471	200
125°	278	331	584	1017	1181	247
135°	325	388	554	834	960	251
145°	370	425	539	676	744	232
155°	421	454	524	592	616	193
165°	458	472	502	532	540	129
175°	478	478	482	488	487	45
180°	479	479	479	479	479	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3
2.5°	729.5	729.0	728.4	727.9	727.3	726.4	725.0	723.7	722.4	721.1	722.1
5°	727.4	726.7	726.0	725.3	724.6	723.6	722.2	720.7	719.4	718.0	719.4
7.5°	720.9	720.4	719.9	719.5	719.1	718.3	717.2	716.1	715.0	714.0	715.7
10°	715.9	715.4	714.9	714.5	714.0	713.4	712.7	712.0	711.3	710.6	712.5
12.5°	707.4	707.6	707.7	707.7	707.8	707.6	707.1	706.5	706.1	705.5	707.4
15°	693.8	694.3	694.7	695.2	695.6	695.9	695.9	695.9	695.9	695.9	698.0
17.5°	676.1	677.1	678.1	679.1	680.0	680.9	681.7	682.4	683.2	683.9	686.1
20°	664.3	665.5	666.7	667.9	669.0	670.1	671.0	671.9	672.9	673.8	676.4
22.5°	651.7	653.1	654.4	655.8	657.1	658.5	659.8	661.1	662.4	663.7	666.3
25°	630.7	632.3	634.0	635.6	637.2	639.1	641.2	643.3	645.4	647.5	650.3
27.5°	605.5	608.2	610.8	613.5	616.2	618.7	621.2	623.7	626.1	628.6	632.2
30°	588.7	591.7	594.8	597.8	600.8	603.9	606.9	609.9	613.0	616.0	619.7
32.5°	570.1	573.5	576.9	580.4	583.8	587.3	590.9	594.5	598.1	601.7	606.0
35°	543.4	547.4	551.4	555.4	559.4	563.6	568.0	572.4	576.9	581.3	586.5
37.5°	514.4	519.0	523.6	528.1	532.7	537.9	543.7	549.5	555.2	560.9	566.6
40°	495.1	500.3	505.4	510.6	515.6	521.4	527.7	534.0	540.3	546.6	552.7
42.5°	476.6	481.7	486.9	492.0	497.2	503.4	510.6	517.8	525.1	532.3	538.9
45°	445.7	452.0	458.3	464.6	471.0	478.2	486.3	494.6	502.7	510.9	518.1
47.5°	415.2	422.1	429.0	435.9	442.7	450.9	460.5	470.1	479.7	489.3	496.8
50°	394.2	401.4	408.7	415.9	423.2	432.1	442.5	453.0	463.6	474.1	482.0
52.5°	374.0	381.6	389.3	396.9	404.5	413.8	424.9	435.9	447.0	458.1	466.2
55°	341.7	350.1	358.5	366.9	375.3	385.6	397.7	409.9	422.0	434.1	442.5
57.5°	309.7	319.2	328.7	338.1	347.6	358.5	370.9	383.3	395.7	408.1	417.2
60°	287.0	297.0	307.0	317.1	327.2	338.8	352.1	365.4	378.7	392.1	401.0
62.5°	266.8	277.2	287.6	298.0	308.5	320.4	333.7	347.0	360.3	373.6	383.0
65°	233.4	244.8	256.3	267.7	279.2	291.8	305.5	319.3	333.1	346.9	356.5
67.5°	202.6	214.6	226.6	238.5	250.5	263.6	277.7	291.8	305.9	320.0	329.6
70°	180.8	193.0	205.1	217.2	229.4	242.7	257.2	271.6	286.1	300.6	310.7
72.5°	160.7	173.2	185.7	198.2	210.7	224.3	239.0	253.7	268.3	283.0	292.9
75°	129.3	142.4	155.4	168.6	181.6	195.7	210.6	225.5	240.5	255.4	265.5
77.5°	99.0	112.7	126.4	140.1	153.8	168.2	183.4	198.6	213.7	228.9	238.9
80°	78.8	93.1	107.3	121.6	135.9	150.5	165.7	180.9	196.1	211.3	221.1
82.5°	62.0	76.0	90.2	104.2	118.3	133.0	148.4	163.7	179.1	194.5	204.3
85°	37.9	52.4	66.8	81.3	95.8	110.5	125.4	140.4	155.3	170.3	180.1
87.5°	20.8	35.3	49.9	64.2	78.5	93.5	109.3	125.6	141.6	156.8	166.1
90°	11.4	27.7	45.0	60.4	75.7	92.8	112.3	133.7	154.2	170.1	178.5
92.5°	20.9	38.5	57.8	74.4	93.2	115.4	150.6	194.2	234.8	250.8	241.4
95°	40.6	55.3	75.5	94.7	120.4	155.0	211.4	305.5	426.2	481.6	445.4
97.5°	59.8	74.5	94.0	116.4	143.1	179.7	246.3	371.3	562.2	727.7	766.5
100°	78.2	89.6	106.5	129.9	156.9	193.6	255.5	380.8	592.6	832.1	973.3
102.5°	94.3	104.3	120.4	143.0	170.1	206.1	264.0	376.4	573.1	829.9	1046.7
105°	117.6	128.0	141.2	161.8	188.8	224.0	279.4	373.4	537.5	772.3	1025.2
107.5°	143.8	152.2	163.8	182.0	207.5	241.9	295.6	378.6	515.7	711.5	935.6
110°	160.7	169.0	179.2	195.8	219.8	254.6	306.5	384.2	507.9	681.4	879.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	176.8	184.4	194.6	209.8	232.3	267.1	317.0	390.5	503.4	659.3	838.0
115°	202.1	209.2	217.3	230.9	251.9	283.3	333.4	400.1	499.8	633.7	786.0
117.5°	227.1	232.5	239.7	251.1	270.5	302.0	348.3	410.7	498.6	616.4	749.7
120°	243.4	248.0	254.4	263.6	283.0	313.9	359.1	418.1	498.4	606.2	729.6
122.5°	258.8	262.1	268.0	277.4	296.2	327.3	369.7	424.5	499.0	598.2	711.9
125°	278.2	280.9	286.5	297.5	315.9	345.4	386.0	434.9	499.5	584.2	685.3
127.5°	294.4	297.9	305.3	317.3	334.7	364.1	402.3	445.5	501.2	573.5	660.7
130°	304.0	307.4	316.4	329.0	347.2	375.3	412.4	452.3	503.2	567.0	644.4
132.5°	312.8	317.0	326.7	340.1	358.9	386.5	421.0	459.1	505.2	561.2	630.3
135°	325.0	328.7	339.7	353.5	374.7	401.6	433.4	467.9	507.1	553.6	610.9
137.5°	337.5	341.9	352.8	367.6	388.5	412.9	443.0	474.0	508.6	547.3	595.6
140°	347.1	350.5	361.3	375.8	395.9	419.9	448.0	477.0	508.7	543.2	586.5
142.5°	356.6	359.3	369.4	383.9	403.2	425.6	452.6	480.5	509.6	541.5	578.9
145°	369.9	373.6	382.9	396.6	415.0	435.3	460.1	485.9	511.7	539.2	570.1
147.5°	385.4	388.2	397.0	409.7	425.0	443.0	466.4	489.0	512.4	536.0	561.9
150°	395.7	398.5	405.8	417.8	431.6	448.1	469.4	490.5	511.7	533.8	555.8
152.5°	406.0	407.3	414.6	425.2	438.2	453.3	472.3	491.2	510.2	530.0	550.6
155°	420.6	421.4	427.0	437.1	447.3	461.1	476.7	492.3	507.9	523.6	541.1
157.5°	432.7	433.6	438.1	446.9	455.0	466.6	479.8	492.3	503.7	517.0	532.1
160°	440.8	441.7	445.4	452.7	460.1	470.2	481.3	492.3	501.5	512.6	525.5
162.5°	448.9	448.4	452.0	457.9	464.5	472.5	482.0	491.6	499.3	508.9	519.6
165°	458.3	457.4	459.2	464.7	469.4	474.8	483.2	489.6	495.1	501.5	509.8
167.5°	466.0	464.9	466.6	470.1	473.4	476.9	482.9	488.3	490.8	495.1	500.3
170°	471.2	469.4	470.2	473.0	474.8	477.6	482.2	486.8	488.6	491.4	495.1
172.5°	474.1	473.0	472.5	475.2	476.3	478.3	481.5	484.6	485.7	487.0	490.0
175°	477.6	476.7	475.8	477.6	477.6	478.6	480.4	482.2	481.3	482.2	483.2
177.5°	479.3	477.8	477.1	478.6	478.6	478.6	479.3	480.8	479.3	478.6	479.3
180°	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3
2.5°	722.9	723.9	724.8	725.2	724.8	724.4	724.0	723.7
5°	720.7	722.2	723.6	724.1	723.9	723.7	723.4	723.2
7.5°	717.3	719.0	720.7	721.4	721.2	721.0	720.7	720.5
10°	714.3	716.2	718.1	718.9	718.7	718.4	718.2	718.0
12.5°	709.3	711.1	713.0	713.8	713.6	713.4	713.1	712.9
15°	700.1	702.2	704.3	705.2	705.0	704.7	704.5	704.3
17.5°	688.3	690.5	692.7	693.8	693.8	693.8	693.8	693.8
20°	679.0	681.5	684.0	685.4	685.4	685.4	685.4	685.4
22.5°	668.8	671.5	674.0	675.5	675.8	676.2	676.6	677.0
25°	653.2	655.9	658.8	660.5	661.2	661.9	662.6	663.3
27.5°	635.7	639.3	642.8	644.8	645.4	645.9	646.4	646.9
30°	623.4	627.2	631.0	633.2	633.8	634.5	635.3	636.0
32.5°	610.3	614.6	618.9	621.7	622.9	624.2	625.4	626.7
35°	591.6	596.8	601.9	605.2	606.9	608.6	610.1	611.8
37.5°	572.3	578.0	583.7	587.4	589.1	590.9	592.6	594.4
40°	558.7	564.8	570.9	575.0	577.1	579.2	581.3	583.4
42.5°	545.6	552.2	558.9	563.2	565.3	567.4	569.5	571.6
45°	525.4	532.6	539.9	544.6	547.0	549.3	551.7	554.0
47.5°	504.4	511.9	519.5	524.6	527.1	529.7	532.3	534.9
50°	490.0	497.9	505.9	511.1	513.7	516.3	518.8	521.4
52.5°	474.4	482.5	490.6	496.1	498.8	501.6	504.3	507.1
55°	451.0	459.4	467.8	473.5	476.5	479.6	482.6	485.6
57.5°	426.2	435.2	444.3	450.4	453.4	456.5	459.6	462.7
60°	409.9	418.7	427.6	433.6	437.0	440.2	443.5	446.8
62.5°	392.4	401.9	411.3	417.6	420.6	423.7	426.8	429.9
65°	366.1	375.7	385.2	391.5	394.5	397.6	400.6	403.6
67.5°	339.3	349.0	358.7	365.1	368.3	371.5	374.6	377.8
70°	320.8	330.7	340.8	347.2	350.1	352.8	355.7	358.5
72.5°	302.7	312.5	322.4	329.0	332.4	335.7	339.1	342.5
75°	275.5	285.6	295.6	302.1	305.2	308.2	311.2	314.3
77.5°	249.0	259.0	268.9	275.6	278.8	282.1	285.4	288.7
80°	230.9	240.7	250.6	257.1	260.3	263.6	266.9	270.1
82.5°	214.1	223.9	233.7	240.2	243.3	246.3	249.4	252.5
85°	189.9	199.7	209.5	216.1	219.4	222.6	225.9	229.2
87.5°	175.5	184.7	194.6	201.0	204.0	207.0	209.9	212.9
90°	186.9	194.4	205.6	212.5	215.4	218.2	221.0	223.8
92.5°	229.7	227.5	228.9	229.2	231.2	231.2	234.6	236.0
95°	379.8	332.5	302.7	288.3	279.2	274.6	274.6	278.4
97.5°	691.8	598.1	507.2	446.4	405.2	385.3	374.6	369.6
100°	962.6	857.1	739.7	634.0	560.2	523.2	499.0	485.1
102.5°	1138.2	1120.9	1037.1	924.6	844.2	779.3	748.5	728.6
105°	1224.9	1337.0	1357.2	1332.1	1277.7	1223.2	1186.2	1175.9
107.5°	1146.4	1310.8	1414.4	1464.2	1473.9	1473.4	1468.0	1453.5
110°	1080.9	1253.2	1378.4	1458.9	1501.0	1521.1	1531.9	1533.6





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1020.6	1186.1	1319.5	1411.0	1468.6	1500.5	1518.7	1526.2
115°	944.9	1093.6	1221.1	1320.7	1388.7	1433.5	1460.1	1470.9
117.5°	885.7	1017.0	1133.2	1226.8	1295.8	1342.9	1370.5	1379.8
120°	854.8	975.5	1079.6	1167.8	1234.9	1280.6	1310.0	1321.7
122.5°	829.5	940.4	1039.2	1119.1	1179.1	1223.8	1249.7	1259.6
125°	791.9	893.0	980.3	1053.5	1109.0	1146.1	1171.2	1180.7
127.5°	754.8	846.4	928.5	996.2	1044.7	1079.6	1101.5	1109.5
130°	730.9	815.7	894.1	958.5	1005.4	1038.6	1058.9	1068.1
132.5°	707.9	786.6	858.8	919.5	965.7	998.9	1017.6	1026.2
135°	675.7	741.3	807.0	861.9	903.3	935.6	954.0	959.6
137.5°	648.6	703.8	756.3	804.1	841.8	869.5	885.7	892.8
140°	631.7	679.6	725.6	768.7	799.5	824.9	840.1	847.0
142.5°	618.2	658.7	698.2	734.1	763.3	786.2	799.8	802.1
145°	600.1	631.8	661.7	689.8	713.0	729.8	740.1	744.1
147.5°	586.4	610.5	633.0	652.8	671.6	684.7	691.5	693.7
150°	577.9	598.2	617.5	634.1	647.8	658.9	664.4	665.4
152.5°	569.8	588.6	605.0	619.3	630.2	639.8	643.8	644.0
155°	558.6	573.3	587.1	597.2	607.4	613.8	617.5	615.7
157.5°	545.5	557.9	569.4	577.3	584.6	589.9	591.5	591.5
160°	537.4	547.6	557.7	564.1	570.5	575.1	576.1	576.1
162.5°	529.3	538.0	546.6	551.6	558.0	561.2	562.1	561.3
165°	517.2	523.6	530.0	533.8	537.4	541.1	541.1	540.2
167.5°	505.6	510.6	515.0	518.3	519.9	522.0	521.8	520.7
170°	499.7	502.5	506.1	507.9	508.9	511.7	510.7	508.9
172.5°	493.1	495.1	498.0	499.2	500.1	501.4	500.4	499.3
175°	485.9	486.8	487.7	488.6	488.6	489.6	488.6	486.8
177.5°	480.8	480.8	481.5	481.5	481.5	481.5	480.8	479.3
180°	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6

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