

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: P331960

Luminaire Tested: **S123DIP-S775D365U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331960
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S775D365U835-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

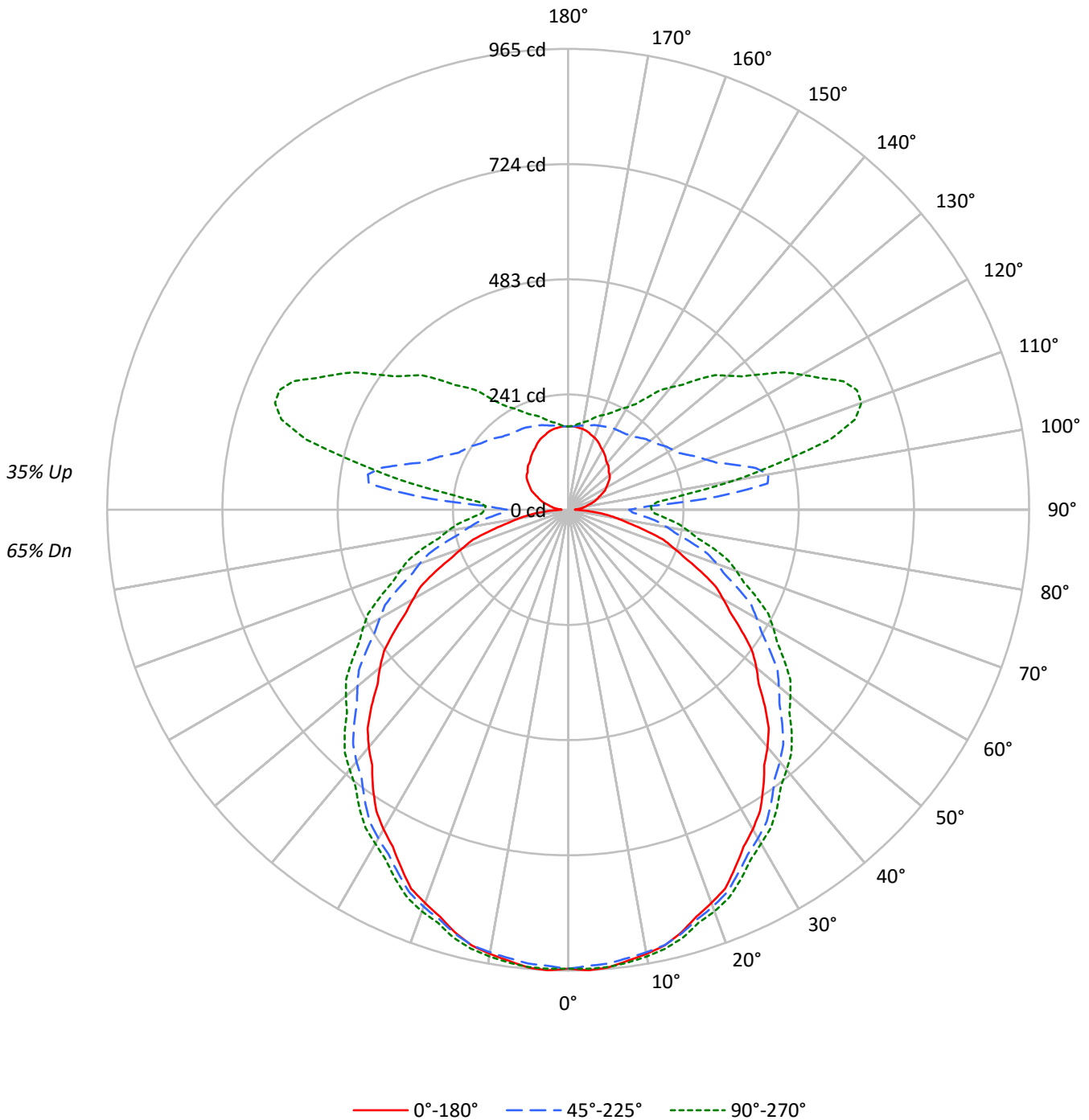
Lumens per Lamp: N/A
Luminaire Lumens: 4544.8 lumens
Efficiency: N/A
Efficacy: 129.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 35
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	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65
1	100	95	90	86	94	89	85	82	78	75	73	69	66	64	60	58	56	52
2	90	82	75	69	84	77	71	66	68	63	59	60	56	53	52	49	46	43
3	82	72	64	57	77	67	60	54	60	54	49	52	48	44	45	42	39	35
4	75	63	55	48	70	60	52	46	53	46	42	46	41	37	40	36	33	30
5	69	56	48	41	64	53	45	39	47	41	36	41	36	32	36	32	29	26
6	63	50	42	36	59	48	40	34	42	36	31	37	32	28	33	29	25	22
7	59	46	37	31	55	43	35	30	38	32	27	34	29	25	30	26	22	20
8	54	41	33	28	51	39	32	26	35	29	24	31	26	22	27	23	20	18
9	51	38	30	25	47	36	29	24	32	26	22	29	24	20	25	21	18	16
10	47	35	27	22	44	33	26	21	30	24	20	27	21	18	24	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10346	10346	10346
5°	10379	10086	10092
10°	10286	9853	9804
15°	10153	9590	9490
20°	9963	9288	9146
25°	9730	8942	8782
30°	9490	8630	8415
35°	9221	8300	8121
40°	8965	8000	7807
45°	8682	7712	7556
50°	8400	7427	7278
55°	8091	7135	7030
60°	7790	6839	6774
65°	7480	6524	6470
70°	7013	6169	6159
75°	6425	5763	5842
80°	5749	5363	5479
85°	5117	5090	5269



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.1	2.0
10°-20°	259.8	5.7
20°-30°	388.5	8.5
30°-40°	464.0	10.2
40°-50°	485.4	10.7
50°-60°	455.5	10.0
60°-70°	380.5	8.4
70°-80°	272.2	6.0
80°-90°	163.7	3.6
90°-100°	199.0	4.4
100°-110°	349.9	7.7
110°-120°	320.6	7.1
120°-130°	244.4	5.4
130°-140°	183.0	4.0
140°-150°	129.8	2.9
150°-160°	88.6	1.9
160°-170°	52.0	1.1
170°-180°	16.9	0.4
0°-30°	739.4	16.3
0°-40°	1203.3	26.5
0°-60°	2144.3	47.2
0°-90°	2960.6	65.1
90°-120°	869.5	19.1
90°-150°	1426.7	31.4
90°-180°	1584.0	34.9
0°-180°	4544.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	961	961	961	961	961	
5°	962	960	954	962	961	91
15°	916	919	918	928	928	258
25°	827	837	841	854	854	381
35°	712	729	742	757	762	445
45°	582	607	634	653	662	449
55°	444	479	516	543	553	397
65°	307	348	394	424	436	303
75°	166	216	268	301	315	178
85°	51	104	159	193	205	54
90°	14	69	127	162	175	10
95°	24	92	313	196	188	22
105°	49	95	363	604	567	52
115°	78	109	273	556	636	77
125°	104	124	236	422	494	93
135°	120	143	213	333	386	93
145°	136	154	198	256	286	85
155°	153	165	191	217	226	70
165°	167	172	183	194	198	47
175°	174	174	176	178	178	17
180°	175	175	175	175	175	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	961.2	961.2	961.2	961.2	961.2	961.2	961.2	961.2	961.2	961.2	961.2
2.5°	965.4	964.8	964.3	963.7	963.2	962.1	960.7	959.2	957.7	956.2	957.7
5°	962.3	961.8	961.3	960.9	960.4	959.5	958.1	956.7	955.3	953.9	955.8
7.5°	952.8	952.9	953.0	953.1	953.2	952.6	951.2	949.9	948.5	947.2	949.5
10°	944.5	944.9	945.4	945.9	946.3	946.0	944.8	943.7	942.5	941.3	943.7
12.5°	934.4	935.1	935.7	936.4	937.0	937.0	936.2	935.4	934.6	933.8	935.9
15°	916.2	916.9	917.6	918.3	919.0	919.2	919.0	918.8	918.5	918.3	920.6
17.5°	893.2	894.6	896.0	897.3	898.7	899.4	899.3	899.2	899.1	899.0	901.1
20°	876.4	877.8	879.2	880.6	882.0	882.9	883.4	883.9	884.3	884.8	886.9
22.5°	858.8	860.2	861.6	863.0	864.4	865.4	866.1	866.7	867.4	868.0	870.7
25°	827.2	829.5	831.8	834.2	836.5	838.0	838.7	839.4	840.1	840.8	843.8
27.5°	795.4	798.0	800.7	803.3	806.0	808.0	809.5	811.0	812.5	814.0	816.6
30°	772.7	775.8	778.8	781.8	784.8	787.3	789.1	791.0	792.9	794.7	797.5
32.5°	747.6	751.0	754.4	757.8	761.2	764.1	766.5	769.0	771.4	773.8	776.8
35°	712.0	715.7	719.5	723.2	726.9	730.3	733.3	736.3	739.4	742.4	745.9
37.5°	674.3	678.5	682.7	686.9	691.1	695.0	698.8	702.5	706.2	709.9	713.9
40°	649.2	653.4	657.6	661.8	665.9	670.4	675.0	679.7	684.3	689.0	692.9
42.5°	621.5	626.7	631.8	636.9	642.0	647.0	651.8	656.7	661.5	666.4	670.7
45°	582.2	587.8	593.3	598.9	604.5	610.2	616.0	621.8	627.7	633.5	637.9
47.5°	540.9	547.3	553.6	559.9	566.2	572.7	579.4	586.0	592.7	599.3	604.3
50°	514.1	520.6	527.1	533.7	540.2	547.0	554.3	561.5	568.7	575.9	581.2
52.5°	485.6	492.5	499.4	506.3	513.2	520.6	528.6	536.5	544.5	552.4	558.0
55°	444.0	451.6	459.3	467.0	474.7	482.7	491.1	499.5	507.8	516.2	522.5
57.5°	403.3	411.3	419.3	427.3	435.4	443.9	453.1	462.3	471.4	480.6	486.9
60°	374.9	383.2	391.6	400.0	408.4	417.3	426.9	436.4	445.9	455.5	462.0
62.5°	348.0	356.6	365.2	373.7	382.3	391.6	401.7	411.8	421.9	432.0	438.5
65°	306.8	315.9	324.9	334.0	343.1	352.7	363.0	373.2	383.5	393.7	400.7
67.5°	264.9	274.5	284.2	293.8	303.4	313.5	323.9	334.3	344.7	355.2	362.8
70°	235.6	245.6	255.6	265.6	275.6	286.2	297.4	308.5	319.7	330.9	338.3
72.5°	208.8	218.8	228.8	238.8	248.8	259.6	271.1	282.7	294.2	305.7	313.4
75°	166.5	177.4	188.4	199.3	210.2	221.5	233.1	244.8	256.4	268.1	275.7
77.5°	129.6	140.7	151.7	162.7	173.7	185.1	196.9	208.6	220.3	232.0	240.1
80°	103.7	115.1	126.5	137.9	149.3	161.0	173.1	185.2	197.3	209.4	217.3
82.5°	81.0	92.6	104.2	115.8	127.4	139.3	151.6	163.9	176.2	188.5	196.4
85°	51.3	62.9	74.6	86.2	97.8	109.8	122.2	134.5	146.8	159.2	167.1
87.5°	28.0	39.7	51.5	63.3	75.0	86.8	98.9	111.0	123.1	135.2	143.0
90°	14.3	26.4	38.5	51.0	63.1	75.4	88.4	101.3	114.2	127.2	134.7
92.5°	17.2	29.6	42.8	55.9	69.1	85.3	106.3	133.1	159.7	166.0	160.3
95°	23.5	33.7	46.6	61.7	80.0	104.0	145.4	209.5	278.8	313.2	280.9
97.5°	30.8	39.3	50.5	64.0	81.2	105.6	145.2	215.5	323.0	420.9	450.5
100°	35.6	43.4	53.3	65.7	81.6	104.5	139.9	202.9	306.6	425.7	502.1
102.5°	40.7	48.0	56.9	68.3	82.6	103.9	136.6	191.5	284.8	402.3	499.7
105°	49.4	56.0	63.7	73.5	85.8	104.6	133.7	180.1	256.9	362.6	470.6
107.5°	57.6	63.4	70.2	79.1	90.1	107.4	133.7	173.4	236.8	326.9	425.2
110°	63.5	68.8	74.7	82.8	93.0	109.6	134.9	171.0	227.7	306.6	397.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	69.7	74.3	79.5	86.8	96.2	112.0	135.8	169.6	220.2	290.8	371.3
115°	77.7	81.9	86.8	93.1	101.9	117.0	138.9	168.8	213.2	272.8	339.5
117.5°	86.4	89.8	93.3	98.3	106.7	120.3	141.5	168.6	207.0	258.7	317.1
120°	91.8	94.1	97.0	101.7	109.6	122.8	143.2	169.3	204.2	251.4	304.8
122.5°	97.2	98.9	101.2	105.7	112.7	126.0	145.8	170.1	202.3	245.2	293.9
125°	103.9	104.6	106.7	110.6	117.3	130.2	149.3	171.6	199.6	236.3	279.0
127.5°	109.7	110.5	112.9	116.7	123.8	136.1	153.6	173.2	197.8	228.8	265.1
130°	113.4	114.2	117.2	121.2	128.4	140.1	156.4	174.5	196.8	223.8	256.8
132.5°	115.4	116.7	120.1	125.1	132.5	143.6	158.7	175.6	195.3	219.3	248.8
135°	120.1	121.3	125.0	130.0	137.2	147.9	161.4	176.0	192.7	212.6	237.6
137.5°	124.6	125.9	129.5	135.0	142.1	151.6	163.6	176.5	190.5	206.8	227.9
140°	126.9	128.6	132.2	137.8	144.9	154.1	165.0	176.3	189.0	203.1	221.8
142.5°	130.2	131.5	135.2	140.1	147.0	155.2	165.3	175.8	187.1	199.2	215.8
145°	135.7	136.5	139.5	144.5	150.3	158.3	167.5	177.0	186.9	197.5	210.7
147.5°	140.2	140.8	143.9	148.5	154.3	161.2	169.6	178.2	186.9	196.2	206.4
150°	143.8	144.2	147.0	151.6	156.5	162.9	171.0	178.5	186.9	195.1	203.9
152.5°	147.5	147.6	150.4	154.4	158.8	164.9	171.9	179.0	186.1	193.7	201.6
155°	153.0	153.0	155.1	158.7	162.6	167.5	173.5	179.2	185.2	191.2	198.2
157.5°	157.4	157.7	159.4	162.5	165.8	169.6	174.4	179.5	184.0	189.0	194.4
160°	160.8	160.8	162.2	165.0	167.5	171.0	175.3	179.5	183.4	187.3	191.9
162.5°	163.3	163.3	164.5	166.7	168.9	171.9	175.6	179.2	182.3	185.6	189.3
165°	167.1	166.8	167.5	169.3	170.7	173.2	176.0	178.5	180.6	183.1	185.9
167.5°	170.0	169.6	170.0	171.3	172.3	173.9	175.9	177.9	178.9	180.5	182.6
170°	171.7	171.0	171.4	172.4	173.2	173.9	175.6	177.0	177.8	178.8	180.6
172.5°	172.9	172.4	172.5	173.3	173.7	174.1	175.6	176.8	176.9	177.4	178.6
175°	174.2	173.9	173.5	174.2	174.2	174.6	175.3	176.0	175.6	175.6	176.3
177.5°	174.9	174.6	174.3	174.6	174.6	174.6	174.9	175.4	174.9	174.6	174.9
180°	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	961.2	961.2	961.2	961.2	961.2	961.2	961.2	961.2
2.5°	959.2	960.7	962.1	962.8	962.6	962.4	962.2	962.1
5°	957.6	959.5	961.3	962.1	961.9	961.7	961.5	961.2
7.5°	951.8	954.2	956.5	957.5	957.2	957.0	956.7	956.4
10°	946.0	948.3	950.6	951.6	951.1	950.6	950.2	949.7
12.5°	938.1	940.2	942.3	943.2	942.7	942.3	941.8	941.3
15°	922.9	925.3	927.6	928.6	928.4	928.2	927.9	927.7
17.5°	903.2	905.3	907.4	908.3	908.0	907.6	907.3	907.0
20°	889.0	891.1	893.2	894.3	894.6	894.8	895.0	895.3
22.5°	873.3	876.0	878.6	879.9	879.8	879.6	879.5	879.3
25°	846.9	849.9	852.9	854.4	854.4	854.4	854.4	854.4
27.5°	819.2	821.8	824.4	825.8	826.0	826.2	826.4	826.6
30°	800.3	803.1	805.9	807.3	807.3	807.3	807.3	807.3
32.5°	779.7	782.7	785.7	787.5	788.0	788.6	789.1	789.7
35°	749.4	752.9	756.3	758.6	759.5	760.4	761.3	762.3
37.5°	717.8	721.8	725.7	728.1	728.8	729.6	730.3	731.1
40°	696.9	700.8	704.8	707.2	708.2	709.1	710.0	711.0
42.5°	675.0	679.3	683.7	686.5	687.8	689.1	690.4	691.7
45°	642.3	646.7	651.2	654.3	656.2	658.0	659.9	661.8
47.5°	609.3	614.3	619.3	622.5	623.9	625.4	626.8	628.2
50°	586.6	591.9	597.3	600.8	602.4	604.0	605.7	607.3
52.5°	563.5	569.1	574.6	578.4	580.4	582.4	584.4	586.4
55°	528.8	535.1	541.3	545.4	547.3	549.1	551.0	552.9
57.5°	493.3	499.6	505.9	510.2	512.4	514.6	516.7	518.9
60°	468.5	475.0	481.5	486.1	488.6	491.2	493.8	496.3
62.5°	445.1	451.6	458.1	462.5	464.9	467.3	469.7	472.0
65°	407.7	414.6	421.6	426.3	428.6	430.9	433.3	435.6
67.5°	370.4	378.1	385.7	390.5	392.4	394.4	396.4	398.3
70°	345.8	353.2	360.7	365.5	367.9	370.2	372.5	374.9
72.5°	321.0	328.6	336.3	341.3	343.6	345.9	348.2	350.6
75°	283.4	291.1	298.8	304.0	306.8	309.6	312.4	315.2
77.5°	248.2	256.3	264.4	269.5	271.7	273.8	276.0	278.1
80°	225.2	233.1	241.1	246.2	248.5	250.8	253.2	255.5
82.5°	204.3	212.2	220.1	225.2	227.6	229.9	232.2	234.5
85°	175.0	182.9	190.8	195.9	198.2	200.6	202.9	205.2
87.5°	151.0	159.0	167.0	172.2	174.5	176.9	179.3	181.5
90°	143.0	151.2	159.5	165.3	167.3	170.0	172.7	174.6
92.5°	156.8	158.4	163.4	166.5	168.0	169.0	171.5	173.0
95°	245.3	211.5	200.0	192.1	187.7	186.8	186.7	187.6
97.5°	427.1	370.9	332.3	294.6	270.9	257.3	250.1	249.4
100°	521.2	499.4	464.8	419.1	385.7	362.3	350.8	353.5
102.5°	548.9	554.5	537.0	509.6	484.2	466.1	456.9	451.1
105°	551.0	592.8	606.0	601.2	587.0	575.7	566.4	566.8
107.5°	515.2	578.8	616.0	632.8	635.1	632.6	630.8	629.6
110°	484.1	555.2	605.7	634.4	646.2	650.9	652.0	653.2



TEST NUMBER: P331960

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	452.4	524.7	580.5	616.2	636.4	647.2	651.9	654.1
115°	410.5	477.6	535.1	577.3	605.7	623.1	632.1	635.7
117.5°	377.8	436.5	488.6	531.4	560.9	580.5	592.5	596.7
120°	360.0	413.1	460.8	500.0	529.5	551.0	561.1	564.8
122.5°	345.0	393.3	437.8	474.3	500.8	520.2	531.2	535.5
125°	324.2	367.6	406.4	438.0	462.2	479.4	489.8	493.9
127.5°	305.2	344.2	379.4	408.2	429.9	444.8	454.4	458.2
130°	293.0	329.3	362.3	389.2	409.4	423.5	432.3	436.5
132.5°	281.4	314.9	345.8	371.6	390.8	405.1	413.2	416.8
135°	265.5	294.8	321.9	344.7	363.2	375.0	382.5	386.1
137.5°	250.7	275.0	298.4	318.3	334.0	346.0	352.5	355.3
140°	241.9	263.4	283.9	301.4	316.0	327.1	333.9	334.7
142.5°	233.0	251.6	269.4	284.8	297.4	307.3	313.6	314.4
145°	223.9	237.4	250.6	262.2	272.0	280.3	284.1	285.7
147.5°	216.5	226.4	236.0	244.0	251.6	257.4	260.9	262.1
150°	212.0	220.2	227.6	234.5	240.3	244.6	247.2	247.7
152.5°	208.9	215.9	222.5	228.1	232.4	236.1	237.4	237.5
155°	204.3	209.9	215.2	219.4	222.6	225.5	226.2	226.5
157.5°	199.3	204.0	208.1	211.5	214.2	216.3	216.9	216.8
160°	196.5	200.4	203.9	206.4	208.8	211.0	211.0	210.6
162.5°	193.1	196.4	199.7	201.9	203.5	205.3	205.3	205.0
165°	188.7	190.8	193.3	195.1	196.5	197.9	197.5	197.5
167.5°	184.9	186.5	187.9	189.2	189.8	190.8	190.5	190.5
170°	182.3	183.4	184.8	185.5	185.9	186.6	186.2	186.2
172.5°	180.1	180.9	182.0	182.4	182.5	183.2	182.6	182.3
175°	177.0	177.4	178.1	178.1	178.1	178.5	178.1	177.8
177.5°	175.1	175.4	175.7	175.7	175.4	175.7	175.1	175.1
180°	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6

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