

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: P331969

Luminaire Tested: **S123DIP-S775D585U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331969  
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-S775D585U835-4F0-1E-UDD-D4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5352.1 lumens  
Efficiency: N/A  
Efficacy: 132.8 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: General Diffuse

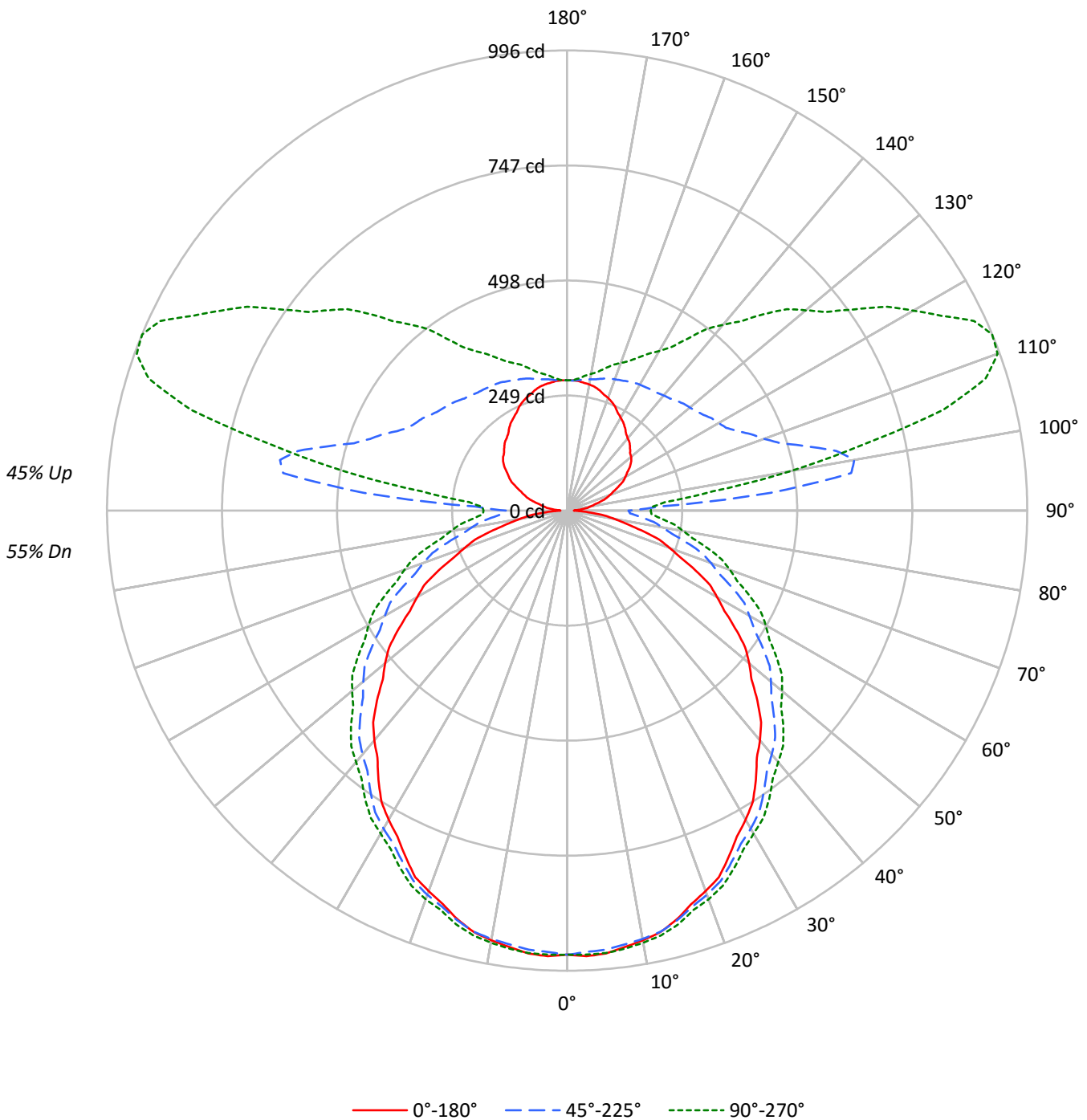
Input Watts (W): 40.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	98	93	89	85	91	86	83	79	74	71	68	63	60	59	52	51	49	44
2	89	81	74	68	82	75	69	64	64	60	56	54	51	48	45	43	41	36
3	81	70	63	56	74	65	59	53	56	51	46	48	44	40	40	37	34	30
4	74	62	54	47	68	58	50	45	50	44	39	42	38	34	35	32	29	25
5	67	55	47	40	62	51	44	38	44	38	34	38	33	29	32	28	25	22
6	62	49	41	35	57	46	39	33	40	34	29	34	29	26	29	25	22	19
7	57	45	36	30	53	42	34	29	36	30	26	31	26	23	26	22	19	17
8	53	40	32	27	49	38	31	26	33	27	23	28	24	20	24	20	17	15
9	50	37	29	24	46	35	28	23	30	24	20	26	21	18	22	18	16	13
10	46	34	26	21	43	32	25	20	28	22	18	24	19	16	20	17	14	12

**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	1.7
10°-20°	259.8	4.9
20°-30°	388.5	7.3
30°-40°	464.0	8.7
40°-50°	485.4	9.1
50°-60°	455.5	8.5
60°-70°	380.5	7.1
70°-80°	272.2	5.1
80°-90°	164.5	3.1
90°-100°	258.7	4.8
100°-110°	518.9	9.7
110°-120°	486.8	9.1
120°-130°	376.9	7.0
130°-140°	287.5	5.4
140°-150°	207.8	3.9
150°-160°	142.9	2.7
160°-170°	83.9	1.6
170°-180°	27.3	0.5
0°-30°	739.4	13.8
0°-40°	1203.3	22.5
0°-60°	2144.3	40.1
0°-90°	2961.5	55.3
90°-120°	1264.3	23.6
90°-150°	2136.5	39.9
90°-180°	2391.0	44.7
0°-180°	5352.1	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°	15	72	133	168	181	11
95°	31	116	442	234	213	30
105°	74	132	537	909	843	79
115°	122	165	406	849	971	121
125°	166	197	361	648	759	147
135°	193	229	335	519	601	149
145°	218	249	319	409	454	137
155°	247	266	309	351	366	114
165°	270	278	296	313	319	76
175°	281	282	284	288	287	27
180°	282	282	282	282	282	



TEST NUMBER: P331969

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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°	28.1	39.9	51.7	63.6	75.5	87.4	99.6	111.8	124.0	136.2	144.0
90°	14.8	27.3	39.8	52.9	65.5	78.3	91.8	105.4	119.0	132.6	139.9
92.5°	19.8	33.6	48.6	63.4	78.4	97.9	124.5	160.7	196.4	199.3	185.5
95°	30.9	41.7	57.0	75.8	99.7	132.2	192.1	288.5	393.4	441.9	385.2
97.5°	43.3	52.1	65.2	81.8	104.6	138.2	195.4	302.2	469.0	620.3	663.8
100°	51.6	59.6	71.1	86.5	107.7	139.0	189.6	284.7	445.4	631.2	750.4
102.5°	60.4	68.1	78.3	92.6	111.6	140.6	187.0	269.1	413.2	596.6	749.7
105°	74.5	81.8	90.8	103.3	119.7	145.2	186.0	254.7	372.5	537.1	707.3
107.5°	88.6	95.0	103.1	114.6	129.5	153.0	189.5	247.9	344.3	483.9	638.8
110°	98.7	104.6	111.6	122.1	136.0	158.7	193.7	246.3	332.1	453.7	596.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	108.7	113.9	120.2	129.9	143.0	164.7	197.5	246.6	322.8	431.4	557.6
115°	122.2	127.2	133.5	141.9	154.4	175.4	205.5	248.6	315.2	406.3	510.5
117.5°	136.4	140.8	145.4	152.3	164.9	183.9	213.3	252.1	309.4	388.0	478.9
120°	145.6	148.5	152.5	159.4	171.4	190.1	218.3	255.6	307.2	378.8	461.7
122.5°	154.3	156.6	160.1	166.8	177.8	197.0	224.3	259.0	306.6	371.4	446.8
125°	165.7	166.8	170.3	176.5	187.4	206.1	232.9	264.7	305.7	360.9	426.8
127.5°	175.2	176.6	180.6	186.8	198.5	216.6	241.5	269.6	306.0	352.6	408.4
130°	181.1	182.6	187.5	194.1	205.8	223.4	246.9	273.2	306.4	347.0	397.6
132.5°	184.8	186.9	192.5	200.7	212.6	229.4	251.5	276.4	305.9	342.4	387.3
135°	192.6	194.6	200.7	209.0	220.8	237.3	257.6	279.5	304.9	335.4	373.2
137.5°	199.9	202.1	208.1	217.0	228.7	243.6	262.0	282.0	303.7	329.1	361.0
140°	204.1	207.0	212.7	221.8	233.2	247.8	265.0	282.8	302.9	325.3	353.3
142.5°	209.6	211.8	217.8	225.8	237.0	250.3	266.6	283.3	301.5	321.0	346.0
145°	218.4	219.8	224.7	233.1	242.5	255.5	270.4	285.8	301.7	318.8	339.0
147.5°	226.2	227.2	232.3	239.7	249.0	260.2	273.8	287.6	301.7	316.7	332.9
150°	232.1	232.7	237.3	244.7	252.7	262.9	276.1	288.0	301.7	314.8	329.1
152.5°	238.1	238.2	242.8	249.3	256.3	266.1	277.4	289.0	300.4	312.6	325.5
155°	247.0	247.0	250.4	256.1	262.4	270.4	280.1	289.2	298.9	308.6	320.0
157.5°	254.0	254.5	257.2	262.3	267.6	273.8	281.5	289.8	296.9	305.0	313.8
160°	259.5	259.5	261.8	266.4	270.4	276.1	282.9	289.8	296.0	302.3	309.7
162.5°	263.6	263.6	265.5	269.1	272.6	277.4	283.4	289.3	294.2	299.6	305.6
165°	269.8	269.2	270.4	273.2	275.5	279.5	284.0	288.0	291.5	295.5	300.0
167.5°	274.5	273.8	274.3	276.5	278.1	280.6	283.9	287.1	288.7	291.3	294.7
170°	277.2	276.1	276.6	278.3	279.5	280.6	283.5	285.8	286.9	288.6	291.5
172.5°	279.0	278.3	278.5	279.7	280.4	281.1	283.5	285.3	285.5	286.3	288.3
175°	281.2	280.6	280.1	281.2	281.2	281.8	282.9	284.0	283.5	283.5	284.6
177.5°	282.2	281.8	281.3	281.8	281.8	281.8	282.2	283.1	282.2	281.8	282.2
180°	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8



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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°	152.1	160.1	168.1	173.5	175.7	178.1	180.6	182.8
90°	148.4	156.9	165.4	171.6	173.4	176.3	179.2	180.9
92.5°	175.1	172.9	176.2	178.1	179.3	179.7	182.4	183.5
95°	323.4	264.5	241.5	225.7	217.2	214.4	212.7	212.8
97.5°	621.8	526.9	460.3	396.7	356.9	333.6	320.5	317.9
100°	777.1	737.6	677.6	601.2	545.9	506.6	486.7	489.6
102.5°	825.1	830.1	797.8	750.9	708.4	677.8	661.5	650.7
105°	833.0	896.6	914.0	903.4	879.3	859.7	843.5	842.8
107.5°	780.2	879.1	935.3	959.7	962.2	957.0	952.9	949.7
110°	732.8	843.8	921.7	965.6	983.4	989.8	990.5	991.3





TEST NUMBER: P331969

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	684.9	798.0	884.4	939.7	971.0	987.2	993.5	995.8
115°	621.6	726.5	815.9	881.8	926.4	953.4	966.7	971.4
117.5°	573.5	664.7	745.5	812.3	858.7	889.3	907.5	913.2
120°	547.5	629.8	703.6	764.7	811.4	845.0	860.3	865.4
122.5°	526.0	600.9	669.5	726.4	768.1	798.4	815.1	821.1
125°	496.7	563.8	623.4	672.3	710.4	737.2	753.1	758.7
127.5°	470.3	530.3	584.3	628.9	663.0	686.1	700.5	705.8
130°	453.4	509.1	559.8	601.5	633.1	655.0	668.4	674.3
132.5°	437.4	488.9	536.1	576.0	606.0	628.1	640.3	645.1
135°	415.6	460.3	501.6	536.8	565.9	584.2	595.6	600.7
137.5°	395.6	432.4	468.0	498.6	523.3	541.8	551.6	555.4
140°	383.6	416.2	447.1	473.9	496.8	513.9	524.2	524.8
142.5°	371.8	399.9	426.7	450.2	469.8	485.1	494.5	495.1
145°	359.1	379.7	399.9	417.8	433.0	445.9	451.4	453.5
147.5°	348.8	364.3	379.6	392.0	403.7	412.7	417.8	419.1
150°	342.2	355.3	367.3	378.4	387.4	394.2	398.0	398.5
152.5°	337.2	348.5	359.1	368.2	375.0	380.9	383.0	383.1
155°	329.7	338.8	347.4	354.2	359.3	363.9	365.0	365.6
157.5°	321.7	329.3	336.0	341.3	345.8	349.2	350.1	350.0
160°	317.1	323.4	329.1	333.1	337.1	340.5	340.5	339.9
162.5°	311.7	317.0	322.3	325.8	328.4	331.4	331.4	330.8
165°	304.6	308.0	312.0	314.8	317.1	319.4	318.8	318.8
167.5°	298.4	301.0	303.3	305.4	306.4	308.0	307.4	307.4
170°	294.3	296.0	298.3	299.4	300.0	301.2	300.6	300.6
172.5°	290.7	291.9	293.7	294.4	294.5	295.7	294.7	294.2
175°	285.8	286.3	287.5	287.5	287.5	288.0	287.5	286.9
177.5°	282.7	283.1	283.6	283.6	283.1	283.6	282.7	282.7
180°	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8

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