

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: P332420-927

Luminaire Tested: **S123RDIW-S560D1030U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332420-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123RDIW-S560D1030U927-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1030 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4959.3 lumens  
Efficiency: N/A  
Efficacy: 109.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

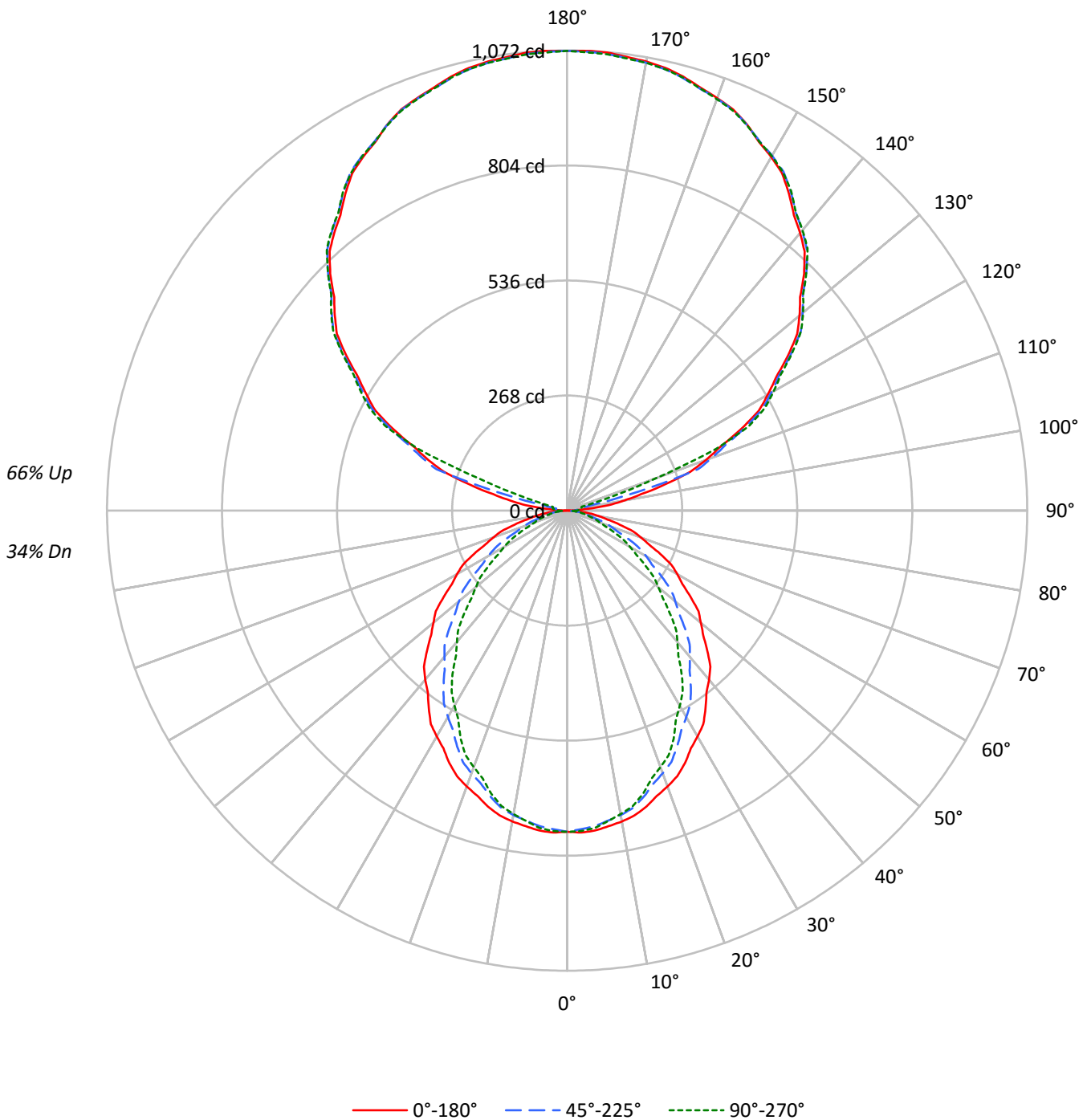
Input Watts (W): 45.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	75	75	75	57	57	57	42	42	42	34
1	94	90	87	83	85	82	79	76	66	63	61	51	49	48	37	36	35	29
2	86	79	73	68	78	72	67	62	58	54	51	45	42	40	33	31	30	25
3	79	70	63	57	71	63	57	52	51	47	43	40	37	34	29	27	26	21
4	72	62	54	48	65	56	50	44	45	41	37	35	32	30	26	24	22	18
5	66	55	47	41	59	50	43	38	41	36	32	32	28	26	24	21	20	16
6	61	49	41	36	55	45	38	33	37	32	28	29	25	23	22	19	17	14
7	56	44	37	31	51	41	34	29	33	28	24	26	23	20	20	17	15	13
8	52	40	33	28	47	37	30	26	30	25	22	24	20	18	18	16	14	11
9	48	37	29	25	44	34	27	23	28	23	19	22	19	16	17	14	13	10
10	45	34	27	22	41	31	25	20	25	21	17	20	17	14	16	13	11	9

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

	0°	45°	90°
0°	8054	8054	8054
5°	8084	7973	8018
10°	8039	7873	7847
15°	7952	7689	7608
20°	7834	7458	7285
25°	7712	7201	6969
30°	7549	6901	6524
35°	7384	6603	6116
40°	7231	6250	5611
45°	7030	5903	5154
50°	6807	5508	4644
55°	6583	5056	4168
60°	6374	4573	3645
65°	6105	4050	3123
70°	5766	3402	2521
75°	5273	2674	2371
80°	4705	2374	2182
85°	3977	2100	1951



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	70.3	1.4
10°-20°	195.5	3.9
20°-30°	281.5	5.7
30°-40°	317.1	6.4
40°-50°	303.3	6.1
50°-60°	248.4	5.0
60°-70°	167.6	3.4
70°-80°	84.3	1.7
80°-90°	25.3	0.5
90°-100°	38.9	0.8
100°-110°	185.6	3.7
110°-120°	445.8	9.0
120°-130°	567.6	11.4
130°-140°	606.5	12.2
140°-150°	567.1	11.4
150°-160°	457.5	9.2
160°-170°	295.2	6.0
170°-180°	101.8	2.1
0°-30°	547.2	11.0
0°-40°	864.3	17.4
0°-60°	1416.1	28.6
0°-90°	1693.3	34.1
90°-120°	670.3	13.5
90°-150°	2411.5	48.6
90°-180°	3266.0	65.9
0°-180°	4959.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	748	748	748	748	748	
5°	748	745	738	743	742	71
15°	714	706	690	687	683	201
25°	649	633	606	594	587	298
35°	562	539	502	477	465	352
45°	462	433	388	354	339	356
55°	351	320	269	236	222	314
65°	240	206	159	130	123	237
75°	127	97	64	58	57	135
85°	32	19	17	16	16	36
90°	1	9	19	22	24	4
95°	49	18	25	30	30	60
105°	237	241	174	41	35	251
115°	445	450	457	464	468	439
125°	627	633	636	638	640	560
135°	780	785	788	791	788	601
145°	901	906	908	909	909	564
155°	992	991	991	995	991	457
165°	1046	1044	1043	1049	1044	295
175°	1071	1067	1068	1073	1067	102
180°	1071	1071	1071	1071	1071	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2
2.5°	750.7	750.2	749.8	749.3	748.9	748.1	746.8	745.4	744.2	742.9	744.1
5°	748.2	747.6	746.9	746.2	745.5	744.4	742.8	741.2	739.5	737.9	739.1
7.5°	741.3	740.6	739.8	739.1	738.4	737.0	734.9	732.8	730.6	728.6	729.2
10°	735.5	734.5	733.6	732.6	731.7	730.0	727.6	725.2	722.7	720.3	720.4
12.5°	727.2	726.2	725.1	724.1	723.0	721.0	718.0	715.1	712.1	709.2	709.1
15°	713.6	712.2	710.7	709.2	707.7	705.0	701.3	697.5	693.7	690.0	689.3
17.5°	696.5	694.8	693.1	691.3	689.6	686.3	681.5	676.8	671.9	667.2	665.7
20°	683.9	681.8	679.6	677.4	675.3	671.6	666.5	661.4	656.2	651.1	649.4
22.5°	669.8	667.3	664.9	662.3	659.9	655.9	650.5	645.0	639.6	634.1	631.9
25°	649.3	645.9	642.5	639.2	635.8	631.1	624.8	618.6	612.4	606.3	603.4
27.5°	624.4	620.7	617.0	613.2	609.5	604.2	597.3	590.4	583.5	576.6	572.7
30°	607.4	603.4	599.4	595.3	591.3	585.4	577.9	570.4	562.8	555.2	550.6
32.5°	590.4	585.9	581.3	576.7	572.1	565.9	557.9	549.9	541.9	533.9	528.9
35°	561.9	557.1	552.2	547.4	542.5	535.9	527.5	519.2	510.8	502.5	496.6
37.5°	533.1	527.7	522.3	516.8	511.4	504.3	495.4	486.5	477.5	468.6	462.0
40°	514.6	508.7	502.7	496.8	490.8	483.1	473.6	464.0	454.4	444.8	437.8
42.5°	493.7	487.7	481.9	475.9	470.0	462.1	452.2	442.3	432.4	422.5	414.8
45°	461.8	455.7	449.6	443.6	437.5	429.3	418.9	408.5	398.2	387.8	380.1
47.5°	429.8	423.2	416.5	409.9	403.2	394.7	384.3	373.9	363.5	353.2	344.8
50°	406.5	400.2	393.9	387.5	381.2	372.6	361.6	350.8	339.8	328.9	320.5
52.5°	385.7	378.8	371.9	365.0	358.2	349.4	338.5	327.7	316.9	306.1	297.4
55°	350.8	344.1	337.5	330.9	324.3	315.3	303.8	292.4	280.9	269.4	261.6
57.5°	318.5	311.2	304.0	296.8	289.6	280.3	268.8	257.3	245.7	234.2	226.9
60°	296.1	288.8	281.3	273.9	266.5	257.1	246.0	234.8	223.6	212.4	205.1
62.5°	273.8	266.4	259.0	251.5	244.2	234.8	223.6	212.5	201.2	190.0	183.2
65°	239.7	232.3	224.9	217.5	210.0	201.1	190.5	180.1	169.5	159.0	152.4
67.5°	205.6	198.1	190.6	183.1	175.6	166.8	156.7	146.6	136.6	126.4	121.5
70°	183.2	175.9	168.7	161.4	154.2	145.8	136.3	126.9	117.5	108.1	103.3
72.5°	160.9	153.8	146.6	139.4	132.2	124.4	115.8	107.2	98.6	90.1	86.2
75°	126.8	120.3	113.9	107.4	100.9	94.0	86.6	79.1	71.8	64.3	63.0
77.5°	95.8	89.9	84.1	78.2	72.3	67.0	62.3	57.5	52.7	47.9	47.2
80°	75.9	70.3	64.8	59.3	53.7	49.6	46.7	43.9	41.0	38.3	37.8
82.5°	57.0	52.1	47.4	42.6	37.8	34.8	33.4	32.2	30.8	29.5	29.1
85°	32.2	29.2	26.2	23.3	20.3	18.6	18.2	17.8	17.4	17.0	16.7
87.5°	11.8	11.0	10.1	9.3	8.5	8.3	8.7	9.2	9.7	10.1	10.1
90°	0.8	2.5	4.4	6.1	7.8	9.9	12.2	14.5	16.8	19.1	19.8
92.5°	14.8	14.3	13.8	13.3	12.8	13.5	15.2	16.9	18.6	20.4	21.5
95°	48.6	41.3	34.1	26.8	19.6	16.9	18.9	20.8	22.7	24.6	25.9
97.5°	97.5	94.3	91.0	87.8	84.5	76.5	63.8	51.1	38.3	25.6	27.0
100°	134.4	138.0	141.6	145.0	148.6	136.6	109.0	81.4	53.9	26.2	27.6
102.5°	176.5	179.0	181.6	184.1	186.6	172.9	142.8	112.6	82.5	52.4	48.0
105°	237.1	239.1	241.0	243.0	244.9	237.9	222.0	206.0	190.2	174.3	143.0
107.5°	301.1	302.6	304.2	305.8	307.3	309.3	311.9	314.3	316.9	319.4	296.4
110°	343.7	345.2	346.6	348.0	349.4	351.1	353.0	355.0	356.9	358.9	353.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	384.4	385.7	387.0	388.3	389.6	391.2	393.1	395.1	397.0	398.9	399.0
115°	444.8	445.8	446.9	448.0	449.0	450.4	451.9	453.5	455.1	456.7	458.5
117.5°	503.2	504.5	505.8	507.1	508.4	509.5	510.3	511.1	511.9	512.7	514.1
120°	539.5	541.1	542.6	544.2	545.8	546.9	547.4	548.0	548.5	549.0	550.4
122.5°	576.4	577.7	579.0	580.3	581.6	582.6	583.3	583.9	584.6	585.3	586.3
125°	627.0	628.4	629.8	631.2	632.6	633.7	634.4	635.1	635.8	636.5	636.9
127.5°	676.0	677.4	678.8	680.2	681.7	682.8	683.7	684.5	685.3	686.2	686.7
130°	706.5	708.0	709.4	710.8	712.3	713.3	714.0	714.7	715.4	716.1	716.8
132.5°	735.9	737.3	738.6	740.1	741.5	742.5	743.1	743.6	744.2	744.7	745.4
135°	780.5	781.6	782.7	783.7	784.8	785.7	786.4	787.1	787.8	788.5	789.0
137.5°	818.7	820.1	821.4	822.8	824.1	825.0	825.4	825.8	826.2	826.6	827.4
140°	844.2	845.3	846.4	847.4	848.4	849.2	849.8	850.3	850.8	851.4	852.1
142.5°	867.8	868.8	869.9	870.9	872.0	872.8	873.3	873.9	874.4	874.9	875.5
145°	900.7	901.9	903.2	904.4	905.6	906.4	906.8	907.1	907.5	907.8	908.2
147.5°	931.8	932.6	933.3	934.1	935.0	935.6	935.9	936.3	936.6	937.0	937.3
150°	950.9	951.3	951.9	952.4	952.9	953.4	953.7	954.1	954.4	954.8	955.1
152.5°	968.0	968.3	968.5	968.8	969.0	969.2	969.5	969.6	969.9	970.1	970.7
155°	992.2	991.8	991.5	991.2	990.8	990.7	990.9	991.0	991.3	991.4	992.3
157.5°	1011.0	1011.0	1010.9	1010.9	1010.8	1010.7	1010.6	1010.3	1010.2	1010.0	1011.1
160°	1022.5	1022.2	1022.1	1021.9	1021.8	1021.5	1021.4	1021.2	1021.0	1020.9	1021.9
162.5°	1033.2	1032.8	1032.4	1031.9	1031.4	1031.1	1030.9	1030.8	1030.5	1030.4	1031.6
165°	1046.3	1045.8	1045.3	1044.7	1044.2	1043.9	1043.6	1043.5	1043.3	1043.1	1044.6
167.5°	1056.5	1055.8	1055.1	1054.4	1053.7	1053.3	1053.3	1053.3	1053.3	1053.3	1054.7
170°	1062.2	1061.5	1060.8	1060.1	1059.4	1059.1	1059.1	1059.1	1059.1	1059.1	1060.4
172.5°	1066.0	1065.2	1064.4	1063.5	1062.6	1062.3	1062.4	1062.6	1062.7	1062.9	1064.3
175°	1071.0	1070.1	1069.2	1068.3	1067.5	1067.1	1067.2	1067.5	1067.6	1067.8	1069.1
177.5°	1072.2	1071.5	1070.9	1070.2	1069.4	1069.1	1069.3	1069.4	1069.5	1069.7	1070.9
180°	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2
2.5°	745.3	746.5	747.7	748.1	747.9	747.7	747.5	747.3
5°	740.3	741.6	742.8	743.2	743.0	742.7	742.4	742.1
7.5°	729.9	730.6	731.3	731.3	730.9	730.5	730.0	729.5
10°	720.6	720.7	720.8	720.6	719.9	719.2	718.6	717.9
12.5°	709.0	708.9	708.8	708.4	707.6	706.8	706.1	705.3
15°	688.6	687.9	687.3	686.4	685.5	684.6	683.7	682.7
17.5°	664.3	662.9	661.4	660.0	658.6	657.2	655.8	654.4
20°	647.6	645.9	644.1	642.5	640.8	639.2	637.5	636.0
22.5°	629.8	627.6	625.4	623.5	622.0	620.5	619.0	617.5
25°	600.6	597.7	594.9	592.7	591.3	589.8	588.3	586.8
27.5°	568.7	564.8	560.9	557.8	555.5	553.3	551.0	548.7
30°	546.1	541.5	536.9	533.5	531.4	529.3	527.0	524.9
32.5°	523.9	518.8	513.8	510.2	507.9	505.6	503.4	501.1
35°	490.8	485.1	479.3	475.2	472.7	470.3	467.9	465.4
37.5°	455.4	448.9	442.3	437.5	434.5	431.5	428.5	425.5
40°	430.8	423.7	416.8	411.7	408.6	405.5	402.4	399.3
42.5°	407.2	399.5	391.8	386.6	383.8	381.0	378.3	375.5
45°	372.4	364.7	357.0	351.6	348.3	345.1	341.8	338.6
47.5°	336.4	328.1	319.7	314.1	311.2	308.3	305.5	302.5
50°	312.2	303.8	295.5	289.7	286.6	283.5	280.4	277.3
52.5°	288.8	280.0	271.3	265.6	262.8	260.1	257.3	254.5
55°	253.8	246.0	238.1	232.9	230.2	227.5	224.8	222.1
57.5°	219.4	212.1	204.7	199.9	197.6	195.3	193.0	190.7
60°	197.8	190.5	183.2	178.5	176.2	173.9	171.6	169.3
62.5°	176.3	169.5	162.6	158.0	155.7	153.2	150.8	148.5
65°	145.8	139.2	132.5	128.5	127.1	125.6	124.1	122.6
67.5°	116.6	111.6	106.7	103.5	101.9	100.3	98.7	97.1
70°	98.5	93.9	89.1	86.0	84.5	83.1	81.6	80.1
72.5°	82.3	78.5	74.6	72.4	71.8	71.1	70.5	69.9
75°	61.6	60.3	58.9	58.1	57.8	57.6	57.3	57.0
77.5°	46.5	45.8	45.0	44.5	44.3	44.0	43.7	43.4
80°	37.4	37.0	36.6	36.3	36.0	35.7	35.5	35.2
82.5°	28.7	28.3	27.9	27.6	27.6	27.6	27.5	27.4
85°	16.5	16.2	15.9	15.8	15.8	15.8	15.8	15.8
87.5°	10.2	10.2	10.3	10.3	10.2	10.2	10.1	10.1
90°	20.5	21.2	21.9	22.4	22.8	23.1	23.5	23.8
92.5°	22.7	23.8	24.9	25.6	25.7	26.0	26.2	26.4
95°	27.2	28.4	29.6	30.3	30.3	30.3	30.3	30.3
97.5°	28.4	29.9	31.3	32.1	32.2	32.4	32.6	32.8
100°	29.1	30.5	31.9	32.7	32.9	33.0	33.3	33.4
102.5°	43.6	39.2	34.8	32.8	33.1	33.4	33.7	34.1
105°	111.7	80.3	49.0	33.6	34.0	34.3	34.6	35.0
107.5°	273.5	250.6	227.6	204.3	180.7	157.2	133.6	110.0
110°	347.2	341.4	335.5	320.0	294.7	269.3	244.1	218.8





TEST NUMBER: P332420-927

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	399.2	399.3	399.3	396.7	391.4	386.1	380.7	375.4
115°	460.3	462.0	463.8	465.0	465.7	466.4	467.1	467.9
117.5°	515.6	517.0	518.4	519.2	519.3	519.4	519.6	519.8
120°	551.8	553.3	554.7	555.4	555.4	555.4	555.4	555.4
122.5°	587.2	588.3	589.2	589.9	589.9	590.1	590.3	590.4
125°	637.2	637.6	637.9	638.3	638.7	639.0	639.4	639.7
127.5°	687.3	687.9	688.5	688.6	688.2	687.9	687.5	687.1
130°	717.6	718.2	718.9	719.1	718.7	718.4	718.0	717.7
132.5°	746.2	746.9	747.6	747.7	747.2	746.7	746.2	745.7
135°	789.6	790.1	790.6	790.6	790.1	789.6	789.0	788.5
137.5°	828.2	829.1	830.0	830.2	829.8	829.5	829.1	828.8
140°	852.8	853.5	854.2	854.4	854.1	853.7	853.3	852.9
142.5°	876.1	876.6	877.2	877.2	876.7	876.2	875.8	875.2
145°	908.6	908.9	909.3	909.4	909.4	909.4	909.4	909.4
147.5°	937.7	938.0	938.4	938.2	937.4	936.5	935.7	934.9
150°	955.5	955.8	956.2	956.2	955.6	955.1	954.6	954.0
152.5°	971.4	972.0	972.6	972.6	971.7	970.9	970.1	969.3
155°	993.2	994.0	995.0	994.8	993.8	992.8	991.7	990.6
157.5°	1012.2	1013.2	1014.2	1014.1	1012.7	1011.4	1010.0	1008.6
160°	1022.9	1024.1	1025.1	1025.0	1023.7	1022.5	1021.3	1020.0
162.5°	1032.8	1034.0	1035.2	1035.2	1034.2	1033.1	1032.0	1030.9
165°	1045.9	1047.3	1048.8	1048.8	1047.7	1046.4	1045.1	1043.9
167.5°	1056.1	1057.6	1059.0	1059.0	1057.6	1056.1	1054.7	1053.3
170°	1061.8	1063.3	1064.7	1064.7	1063.3	1061.8	1060.4	1059.1
172.5°	1065.7	1067.1	1068.5	1068.4	1066.9	1065.3	1063.7	1062.2
175°	1070.2	1071.5	1072.8	1072.7	1071.3	1069.8	1068.4	1067.0
177.5°	1072.0	1073.1	1074.2	1074.1	1072.7	1071.3	1069.8	1068.4
180°	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0

(END OF REPORT)