

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: P332280-840

Luminaire Tested: **S123RDIP-S560D585U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332280-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S560D585U840-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4188.5 lumens
Efficiency: N/A
Efficacy: 127.7 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: General Diffuse

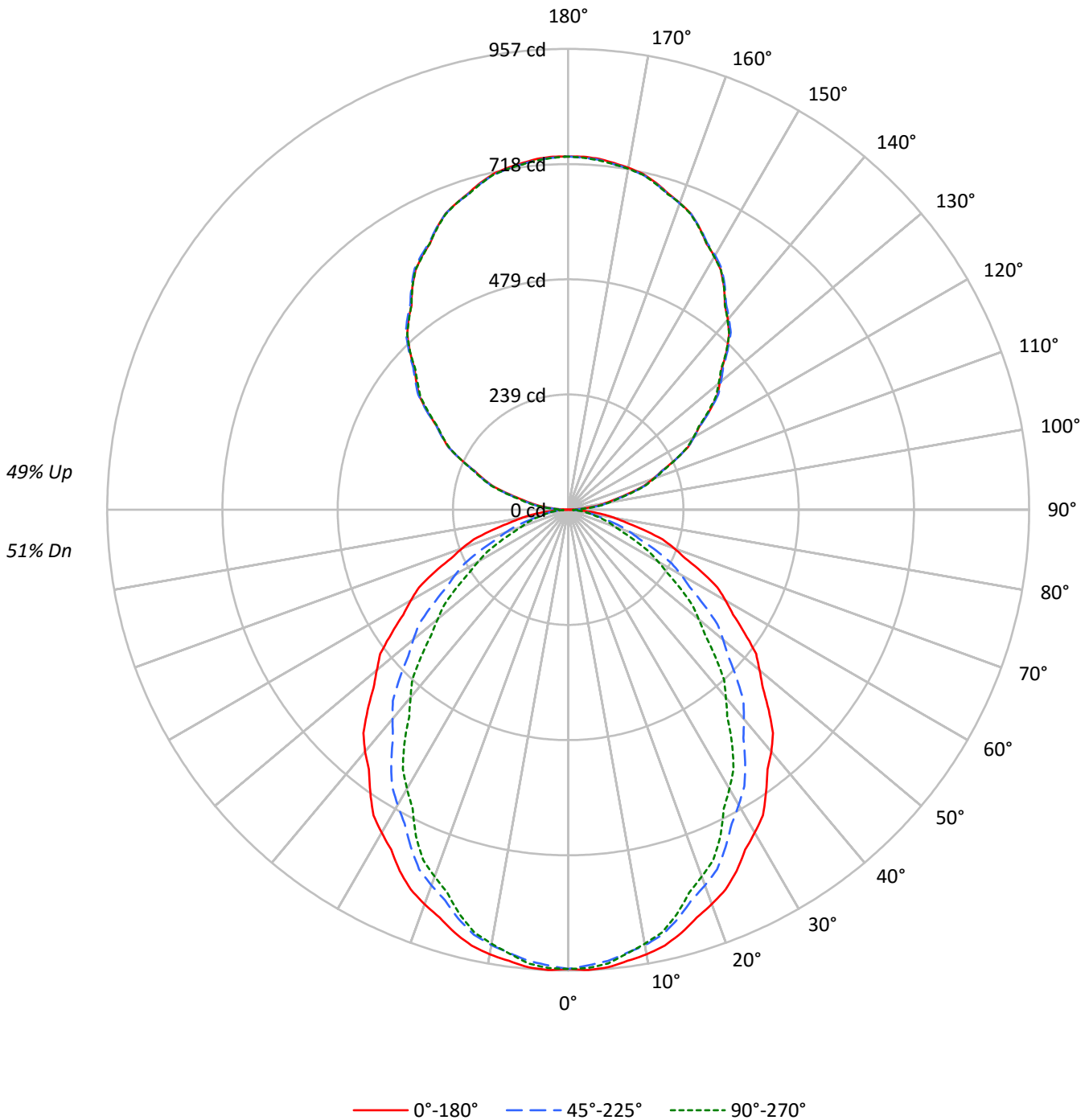
Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332280-840

CATALOG NUMBER: S123RDIP-S560D585U840-4F0-1E-UDD-F1

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	107	107	107	107	99	99	99	99	84	84	84		70	70	70		57	57	57	51
1	98	94	90	87	91	87	84	81	74	72	70		62	61	59		51	50	49	44
2	90	83	77	72	83	77	72	67	65	62	58		55	52	50		46	44	42	37
3	82	73	66	60	76	68	61	56	58	53	49		49	46	43		41	38	36	32
4	75	65	57	51	69	60	53	48	52	47	42		44	40	37		37	34	31	28
5	69	58	50	44	64	54	47	42	46	41	37		40	35	32		33	30	27	24
6	64	52	44	38	59	49	41	36	42	36	32		36	32	28		30	27	24	21
7	59	47	39	34	55	44	37	32	38	33	28		33	28	25		28	24	22	19
8	55	43	35	30	51	40	33	28	35	29	25		30	26	22		25	22	20	17
9	51	39	32	27	47	37	30	25	32	27	23		28	23	20		23	20	18	16
10	48	36	29	24	44	34	27	23	30	24	21		26	21	18		22	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10267	10267	10267
5°	10306	10164	10222
10°	10248	10037	10002
15°	10137	9802	9698
20°	9986	9507	9286
25°	9830	9178	8884
30°	9625	8797	8316
35°	9412	8418	7796
40°	9218	7967	7152
45°	8961	7524	6570
50°	8679	7021	5921
55°	8392	6446	5315
60°	8127	5828	4646
65°	7784	5163	3978
70°	7352	4334	3213
75°	6725	3410	3023
80°	5994	3025	2777
85°	5064	2668	2482



TEST NUMBER: P332280-840

CATALOG NUMBER: S123RDIP-S560D585U840-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.6	2.1
10°-20°	249.2	5.9
20°-30°	358.8	8.6
30°-40°	404.2	9.7
40°-50°	386.7	9.2
50°-60°	316.7	7.6
60°-70°	213.7	5.1
70°-80°	107.5	2.6
80°-90°	30.6	0.7
90°-100°	47.8	1.1
100°-110°	143.0	3.4
110°-120°	243.2	5.8
120°-130°	319.9	7.6
130°-140°	359.5	8.6
140°-150°	353.4	8.4
150°-160°	297.5	7.1
160°-170°	198.0	4.7
170°-180°	69.3	1.7
0°-30°	697.6	16.7
0°-40°	1101.8	26.3
0°-60°	1805.2	43.1
0°-90°	2156.9	51.5
90°-120°	433.9	10.4
90°-150°	1466.7	35.0
90°-180°	2032.0	48.5
0°-180°	4188.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	954	954	954	954	954	
5°	954	950	941	947	946	90
15°	910	900	880	876	870	256
25°	828	808	773	757	748	381
35°	716	687	641	608	593	448
45°	589	552	494	452	432	454
55°	447	408	344	300	283	401
65°	306	262	203	166	156	302
75°	162	124	82	75	73	172
85°	41	25	22	20	20	46
90°	1	6	14	16	17	4
95°	34	38	43	45	45	38
105°	130	131	136	136	137	139
115°	245	246	245	246	245	242
125°	358	360	359	357	354	319
135°	465	468	468	465	464	358
145°	564	565	567	566	564	352
155°	646	646	646	648	645	297
165°	703	702	702	705	701	198
175°	732	729	729	732	729	69
180°	733	733	733	733	733	



TEST NUMBER: P332280-840

CATALOG NUMBER: S123RDIP-S560D585U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8
2.5°	956.9	956.3	955.8	955.2	954.7	953.6	952.0	950.3	948.7	947.1	948.6
5°	953.8	953.0	952.1	951.3	950.4	949.0	946.8	944.8	942.7	940.7	942.2
7.5°	945.0	944.1	943.1	942.2	941.3	939.5	936.9	934.1	931.4	928.8	929.6
10°	937.6	936.3	935.1	933.9	932.8	930.6	927.6	924.4	921.3	918.3	918.4
12.5°	927.1	925.7	924.3	923.0	921.7	919.2	915.3	911.6	907.8	904.0	903.9
15°	909.7	907.9	905.9	904.0	902.2	898.8	894.0	889.2	884.3	879.6	878.7
17.5°	887.9	885.8	883.5	881.3	879.1	874.9	868.8	862.7	856.6	850.5	848.7
20°	871.8	869.1	866.4	863.5	860.8	856.2	849.6	843.1	836.6	830.0	827.8
22.5°	853.8	850.7	847.6	844.3	841.2	836.2	829.2	822.2	815.4	808.4	805.6
25°	827.7	823.4	819.1	814.9	810.5	804.5	796.5	788.6	780.7	772.8	769.2
27.5°	796.0	791.2	786.5	781.7	777.0	770.2	761.4	752.7	743.9	735.1	730.0
30°	774.4	769.2	764.1	758.9	753.8	746.3	736.7	727.1	717.4	707.8	702.0
32.5°	752.7	746.9	741.0	735.2	729.3	721.3	711.1	700.9	690.7	680.5	674.2
35°	716.3	710.1	704.0	697.8	691.6	683.2	672.5	661.9	651.2	640.6	633.1
37.5°	679.5	672.7	665.8	658.8	652.0	642.9	631.5	620.2	608.7	597.3	589.0
40°	656.0	648.4	640.9	633.3	625.7	615.8	603.7	591.5	579.3	567.0	558.1
42.5°	629.3	621.8	614.3	606.7	599.2	589.1	576.4	563.8	551.2	538.6	528.8
45°	588.7	581.0	573.2	565.5	557.7	547.2	534.0	520.8	507.6	494.3	484.5
47.5°	548.0	539.5	531.0	522.5	514.0	503.2	489.9	476.7	463.4	450.2	439.6
50°	518.3	510.2	502.1	494.0	485.9	474.9	461.0	447.2	433.2	419.3	408.6
52.5°	491.7	482.9	474.1	465.3	456.7	445.4	431.5	417.8	403.9	390.2	379.1
55°	447.2	438.7	430.3	421.8	413.4	401.9	387.3	372.7	358.1	343.5	333.5
57.5°	406.0	396.8	387.6	378.4	369.2	357.3	342.6	328.0	313.3	298.6	289.2
60°	377.5	368.1	358.6	349.1	339.7	327.8	313.6	299.3	285.0	270.7	261.5
62.5°	349.0	339.6	330.1	320.6	311.2	299.3	285.1	270.8	256.5	242.3	233.6
65°	305.6	296.1	286.7	277.2	267.7	256.3	242.9	229.5	216.1	202.7	194.3
67.5°	262.1	252.6	243.0	233.4	223.9	212.7	199.8	186.9	174.1	161.2	154.9
70°	233.6	224.3	215.1	205.8	196.5	185.8	173.8	161.8	149.8	137.7	131.7
72.5°	205.1	196.0	186.8	177.7	168.5	158.5	147.6	136.6	125.7	114.8	109.9
75°	161.7	153.4	145.2	136.9	128.7	119.8	110.4	100.9	91.5	82.0	80.3
77.5°	122.1	114.6	107.1	99.7	92.2	85.4	79.4	73.3	67.2	61.1	60.2
80°	96.7	89.7	82.6	75.5	68.5	63.2	59.6	55.9	52.3	48.8	48.2
82.5°	72.6	66.4	60.4	54.3	48.2	44.3	42.6	41.0	39.3	37.6	37.1
85°	41.0	37.3	33.4	29.7	25.9	23.7	23.2	22.7	22.2	21.6	21.3
87.5°	14.9	13.7	12.4	11.2	9.9	9.5	9.8	10.1	10.5	10.8	10.8
90°	0.6	1.8	3.1	4.4	5.7	7.2	8.8	10.5	12.1	13.8	14.3
92.5°	13.9	14.8	15.7	16.6	17.5	18.4	19.3	20.2	21.2	22.1	22.5
95°	34.0	34.8	35.7	36.7	37.6	38.6	39.6	40.6	41.6	42.6	43.1
97.5°	60.4	61.0	61.7	62.4	63.0	63.7	64.4	65.2	65.9	66.8	67.3
100°	78.4	79.1	79.9	80.7	81.4	82.1	82.7	83.4	84.0	84.6	85.0
102.5°	99.1	99.6	100.0	100.5	100.9	101.6	102.4	103.3	104.1	104.9	105.3
105°	129.6	129.9	130.1	130.4	130.7	131.3	132.5	133.6	134.8	135.9	135.9
107.5°	165.1	165.2	165.4	165.5	165.7	166.0	166.4	166.9	167.4	167.8	168.2
110°	187.2	187.4	187.7	187.9	188.2	188.4	188.7	189.0	189.2	189.6	190.1



TEST NUMBER: P332280-840

CATALOG NUMBER: S123RDIP-S560D585U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	210.3	210.4	210.6	210.7	210.9	211.0	211.1	211.1	211.2	211.2	211.8
115°	244.8	245.2	245.6	246.0	246.3	246.4	246.1	245.9	245.6	245.4	245.5
117.5°	279.6	279.8	280.1	280.3	280.6	280.5	280.2	279.9	279.6	279.2	279.2
120°	301.2	302.1	302.8	303.6	304.4	304.4	303.8	303.2	302.5	301.8	301.7
122.5°	323.9	324.4	325.0	325.5	326.1	326.2	325.9	325.6	325.2	324.9	324.6
125°	358.3	358.7	359.0	359.4	359.8	359.9	359.6	359.4	359.1	358.9	358.3
127.5°	390.1	390.9	391.7	392.5	393.3	393.6	393.3	393.0	392.7	392.5	391.8
130°	411.3	412.3	413.3	414.3	415.4	415.7	415.4	415.0	414.5	414.1	413.6
132.5°	432.4	433.5	434.5	435.6	436.6	437.0	436.7	436.4	436.1	435.9	435.2
135°	464.8	465.6	466.4	467.2	467.9	468.3	468.1	468.0	467.9	467.8	467.3
137.5°	494.8	495.4	496.0	496.8	497.4	497.9	498.2	498.5	498.9	499.2	498.7
140°	515.5	516.1	516.8	517.5	518.1	518.5	518.6	518.8	518.9	519.0	518.9
142.5°	534.4	535.0	535.7	536.3	536.9	537.5	537.7	537.9	538.2	538.4	538.3
145°	563.9	564.2	564.4	564.7	564.9	565.2	565.6	566.0	566.4	566.8	566.6
147.5°	589.8	590.2	590.7	591.1	591.6	592.0	592.4	592.7	593.1	593.4	593.4
150°	607.7	607.9	608.2	608.4	608.7	608.9	609.3	609.5	609.8	610.0	610.0
152.5°	622.5	622.8	623.2	623.5	623.9	624.1	624.3	624.4	624.6	624.7	624.9
155°	645.7	645.7	645.7	645.7	645.7	645.8	645.9	646.0	646.2	646.3	646.8
157.5°	665.5	665.4	665.2	665.1	664.9	664.9	665.0	665.1	665.2	665.3	665.8
160°	677.9	677.7	677.4	677.2	676.9	676.8	676.8	676.8	676.8	676.8	677.4
162.5°	689.0	688.6	688.3	687.9	687.6	687.5	687.6	687.7	687.8	687.9	688.5
165°	703.3	703.0	702.6	702.2	701.8	701.6	701.6	701.6	701.6	701.6	702.4
167.5°	714.7	714.2	713.7	713.2	712.7	712.5	712.6	712.7	712.8	712.9	713.7
170°	721.1	720.6	720.1	719.6	719.1	718.8	718.8	718.8	718.8	718.8	719.7
172.5°	726.2	725.7	725.2	724.7	724.2	724.0	724.0	724.0	724.0	724.0	724.8
175°	731.5	731.0	730.5	730.0	729.5	729.2	729.2	729.2	729.2	729.2	730.0
177.5°	733.8	733.4	733.0	732.5	732.1	731.8	731.8	731.8	731.8	731.8	732.5
180°	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3



TEST NUMBER: P332280-840

CATALOG NUMBER: S123RDIP-S560D585U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8
2.5°	950.1	951.6	953.1	953.7	953.4	953.1	952.9	952.6
5°	943.7	945.3	946.8	947.5	947.2	946.7	946.4	946.0
7.5°	930.5	931.3	932.2	932.3	931.7	931.2	930.6	930.0
10°	918.6	918.8	918.9	918.6	917.8	916.9	916.0	915.1
12.5°	903.8	903.7	903.6	903.0	902.0	901.0	900.1	899.1
15°	877.9	877.0	876.2	875.0	873.8	872.7	871.5	870.3
17.5°	846.9	845.1	843.1	841.4	839.6	837.8	836.0	834.2
20°	825.6	823.3	821.1	819.0	816.9	814.9	812.7	810.7
22.5°	802.8	800.0	797.3	794.9	792.9	791.0	789.1	787.2
25°	765.6	761.9	758.4	755.6	753.8	751.8	749.9	748.0
27.5°	725.0	720.0	715.0	711.0	708.1	705.3	702.4	699.4
30°	696.1	690.2	684.5	680.1	677.4	674.7	671.9	669.1
32.5°	667.8	661.4	655.0	650.4	647.5	644.6	641.7	638.8
35°	625.7	618.3	611.0	605.7	602.6	599.6	596.4	593.3
37.5°	580.6	572.2	563.8	557.7	553.9	550.1	546.2	542.4
40°	549.2	540.2	531.3	524.8	520.9	516.9	513.0	509.0
42.5°	519.1	509.3	499.5	492.8	489.3	485.7	482.2	478.7
45°	474.7	464.9	455.1	448.2	444.0	439.9	435.8	431.6
47.5°	428.9	418.3	407.6	400.4	396.8	393.0	389.4	385.7
50°	398.0	387.3	376.7	369.3	365.4	361.4	357.5	353.6
52.5°	368.1	357.0	345.9	338.6	335.1	331.5	328.0	324.5
55°	323.6	313.6	303.6	296.9	293.5	290.0	286.6	283.2
57.5°	279.7	270.3	260.9	254.8	251.9	248.9	246.0	243.1
60°	252.2	242.9	233.6	227.5	224.6	221.7	218.7	215.8
62.5°	224.8	216.1	207.3	201.5	198.4	195.3	192.3	189.2
65°	185.8	177.4	169.0	163.8	162.0	160.1	158.1	156.2
67.5°	148.7	142.3	136.0	131.9	129.9	127.8	125.8	123.8
70°	125.6	119.7	113.6	109.7	107.8	105.9	104.0	102.1
72.5°	104.9	100.1	95.1	92.3	91.5	90.7	89.9	89.1
75°	78.6	76.9	75.1	74.1	73.7	73.4	73.0	72.7
77.5°	59.3	58.4	57.4	56.8	56.5	56.0	55.7	55.3
80°	47.7	47.2	46.7	46.3	45.9	45.5	45.2	44.8
82.5°	36.6	36.1	35.5	35.2	35.1	35.1	35.0	34.9
85°	21.0	20.6	20.3	20.1	20.1	20.1	20.1	20.1
87.5°	10.7	10.7	10.7	10.6	10.5	10.4	10.3	10.3
90°	14.8	15.3	15.9	16.3	16.6	16.8	17.1	17.3
92.5°	22.9	23.3	23.7	23.9	23.7	23.5	23.4	23.2
95°	43.6	44.1	44.6	44.9	44.9	44.9	44.9	44.9
97.5°	67.9	68.5	69.1	69.3	69.3	69.2	69.2	69.1
100°	85.4	85.8	86.2	86.5	86.7	87.1	87.3	87.6
102.5°	105.7	106.1	106.4	106.6	106.6	106.5	106.5	106.4
105°	135.9	135.9	135.9	136.0	136.3	136.5	136.8	137.1
107.5°	168.6	169.1	169.5	169.7	169.5	169.4	169.2	169.1
110°	190.6	191.1	191.6	191.7	191.5	191.2	191.0	190.7



TEST NUMBER: P332280-840

CATALOG NUMBER: S123RDIP-S560D585U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	212.4	213.0	213.6	213.9	213.9	213.8	213.8	213.7
115°	245.6	245.8	245.9	245.9	245.8	245.6	245.5	245.4
117.5°	279.2	279.1	279.1	278.9	278.6	278.2	277.9	277.5
120°	301.5	301.4	301.3	301.1	300.8	300.6	300.3	300.1
122.5°	324.2	323.9	323.6	323.2	322.9	322.4	322.1	321.7
125°	357.8	357.3	356.8	356.3	355.8	355.3	354.8	354.3
127.5°	391.0	390.3	389.6	389.0	388.4	387.8	387.2	386.6
130°	413.1	412.6	412.1	411.4	410.5	409.6	408.7	407.8
132.5°	434.5	433.9	433.3	432.7	432.0	431.3	430.6	429.9
135°	466.7	466.2	465.6	465.2	465.0	464.7	464.5	464.2
137.5°	498.1	497.6	497.1	496.6	496.0	495.5	495.0	494.5
140°	518.8	518.6	518.5	518.0	517.1	516.1	515.2	514.4
142.5°	538.1	538.0	537.9	537.5	536.7	536.0	535.3	534.6
145°	566.5	566.4	566.3	565.9	565.4	564.9	564.4	563.9
147.5°	593.4	593.4	593.4	593.0	592.3	591.5	590.8	590.0
150°	610.0	610.0	610.0	609.7	608.8	608.0	607.3	606.5
152.5°	625.2	625.4	625.6	625.3	624.7	624.0	623.4	622.7
155°	647.3	647.8	648.3	648.1	647.2	646.3	645.5	644.6
157.5°	666.4	666.9	667.4	667.3	666.6	665.9	665.2	664.5
160°	678.1	678.7	679.3	679.4	678.9	678.4	677.9	677.4
162.5°	689.1	689.8	690.4	690.3	689.5	688.7	687.9	687.1
165°	703.2	703.9	704.7	704.6	703.7	702.8	702.0	701.0
167.5°	714.5	715.3	716.1	716.1	715.3	714.5	713.7	712.9
170°	720.6	721.5	722.5	722.5	721.5	720.6	719.7	718.8
172.5°	725.5	726.3	727.1	727.1	726.2	725.3	724.4	723.5
175°	730.7	731.5	732.4	732.3	731.3	730.4	729.5	728.6
177.5°	733.2	733.8	734.4	734.3	733.6	732.9	732.2	731.4
180°	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3

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