

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: P332273-940

Luminaire Tested: **S123RDIP-S560D365U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332273-940
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: S123RDIP-S560D365U940-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3197.2 lumens
Efficiency: N/A
Efficacy: 116.3 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

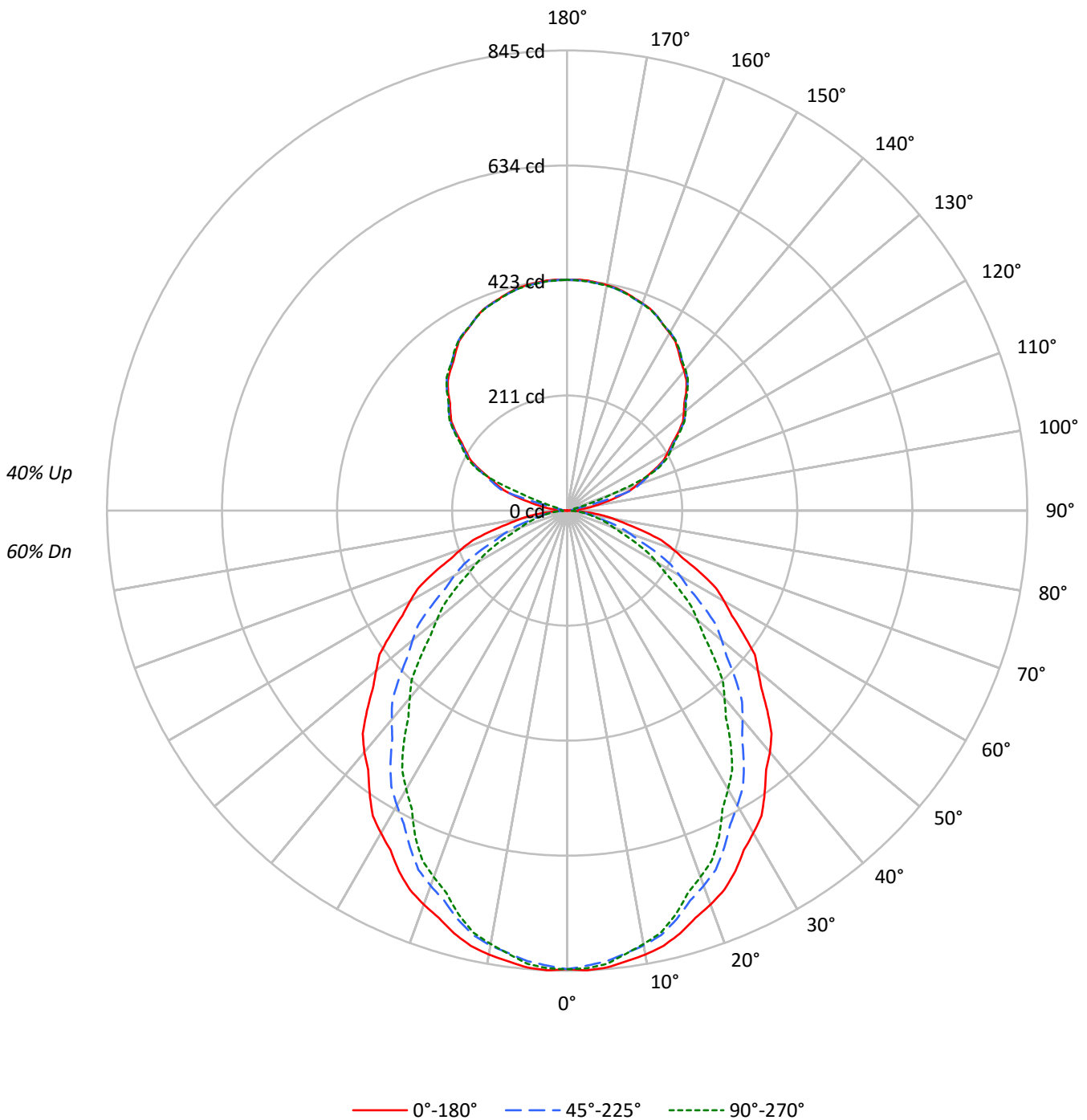
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332273-940

CATALOG NUMBER: S123RDIP-S560D365U940-4F0-1E-UDD-F

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	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	60
1	100	96	92	89	94	90	87	84	78	76	74	68	66	64	58	57	56	51
2	92	84	78	73	85	79	74	69	69	65	62	60	57	54	51	49	47	43
3	84	74	67	61	78	70	64	58	61	56	52	53	50	46	46	43	41	37
4	77	66	58	52	72	62	55	50	55	49	45	48	44	40	41	38	35	32
5	71	59	51	45	66	56	48	43	49	43	39	43	39	35	37	34	31	28
6	65	53	45	39	61	50	43	38	44	39	34	39	34	31	34	30	28	25
7	61	48	40	35	56	46	38	33	40	35	30	36	31	27	31	27	25	22
8	56	44	36	31	53	42	35	30	37	31	27	33	28	25	29	25	22	20
9	53	40	33	28	49	38	31	27	34	28	24	30	26	22	27	23	20	18
10	49	37	30	25	46	35	28	24	31	26	22	28	23	20	25	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9065	9065	9065
5°	9100	8975	9027
10°	9049	8862	8833
15°	8952	8655	8564
20°	8818	8395	8200
25°	8679	8105	7845
30°	8499	7768	7343
35°	8311	7432	6884
40°	8140	7035	6315
45°	7913	6645	5801
50°	7663	6199	5228
55°	7409	5692	4692
60°	7175	5147	4103
65°	6872	4559	3512
70°	6493	3827	2839
75°	5939	3011	2670
80°	5294	2672	2455
85°	4471	2359	2186



TEST NUMBER: P332273-940

CATALOG NUMBER: S123RDIP-S560D365U940-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.1	2.5
10°-20°	220.1	6.9
20°-30°	316.9	9.9
30°-40°	356.9	11.2
40°-50°	341.4	10.7
50°-60°	279.6	8.7
60°-70°	188.7	5.9
70°-80°	94.9	3.0
80°-90°	26.3	0.8
90°-100°	15.4	0.5
100°-110°	73.5	2.3
110°-120°	176.5	5.5
120°-130°	224.8	7.0
130°-140°	240.2	7.5
140°-150°	224.6	7.0
150°-160°	181.2	5.7
160°-170°	116.9	3.7
170°-180°	40.3	1.3
0°-30°	616.0	19.3
0°-40°	972.9	30.4
0°-60°	1594.0	49.9
0°-90°	1903.8	59.5
90°-120°	265.4	8.3
90°-150°	955.0	29.9
90°-180°	1293.0	40.4
0°-180°	3197.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	842	842	842	842	842	
5°	842	839	831	836	835	80
15°	803	795	777	773	768	226
25°	731	713	682	668	660	336
35°	632	607	566	537	524	396
45°	520	488	436	399	381	401
55°	395	360	303	265	250	354
65°	270	231	179	147	138	267
75°	143	110	72	66	64	152
85°	36	22	19	18	18	41
90°	0	4	8	9	10	3
95°	19	7	10	12	12	24
105°	94	96	69	16	14	100
115°	176	178	181	184	185	174
125°	248	251	252	253	253	222
135°	309	311	312	313	312	238
145°	357	359	360	360	360	223
155°	393	392	393	394	392	181
165°	414	413	413	415	413	117
175°	424	423	423	425	423	40
180°	424	424	424	424	424	



TEST NUMBER: P332273-940

CATALOG NUMBER: S123RDIP-S560D365U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2
2.5°	845.0	844.5	844.0	843.5	843.0	842.0	840.6	839.1	837.7	836.2	837.6
5°	842.2	841.5	840.7	840.0	839.2	837.9	836.1	834.3	832.4	830.6	832.0
7.5°	834.5	833.7	832.8	832.0	831.2	829.6	827.2	824.8	822.4	820.1	820.8
10°	827.9	826.8	825.7	824.7	823.7	821.7	819.0	816.3	813.5	810.8	810.9
12.5°	818.6	817.4	816.2	815.0	813.9	811.6	808.2	804.9	801.6	798.3	798.2
15°	803.3	801.6	800.0	798.3	796.7	793.6	789.4	785.2	780.9	776.7	775.9
17.5°	784.0	782.1	780.2	778.2	776.2	772.6	767.1	761.8	756.3	751.0	749.4
20°	769.8	767.4	765.0	762.5	760.1	756.0	750.2	744.5	738.7	732.9	730.9
22.5°	753.9	751.2	748.4	745.6	742.8	738.3	732.2	726.0	720.0	713.8	711.3
25°	730.8	727.1	723.3	719.5	715.7	710.3	703.3	696.3	689.4	682.4	679.2
27.5°	702.8	698.7	694.5	690.3	686.1	680.1	672.3	664.6	656.8	649.1	644.6
30°	683.8	679.2	674.7	670.1	665.6	659.0	650.5	642.0	633.5	625.0	619.8
32.5°	664.6	659.5	654.3	649.2	644.0	636.9	627.9	618.9	609.9	600.9	595.3
35°	632.5	627.1	621.6	616.2	610.6	603.2	593.8	584.4	575.0	565.6	559.0
37.5°	600.0	594.0	587.9	581.8	575.7	567.7	557.6	547.6	537.5	527.4	520.0
40°	579.3	572.6	565.9	559.2	552.5	543.8	533.1	522.3	511.5	500.7	492.8
42.5°	555.7	549.0	542.4	535.7	529.1	520.1	509.0	497.8	486.7	475.5	466.9
45°	519.8	513.0	506.1	499.4	492.5	483.2	471.5	459.9	448.2	436.5	427.8
47.5°	483.8	476.4	468.9	461.4	453.9	444.3	432.6	420.9	409.2	397.5	388.2
50°	457.6	450.5	443.4	436.2	429.1	419.4	407.1	394.8	382.5	370.2	360.8
52.5°	434.2	426.4	418.7	410.9	403.2	393.2	381.0	368.9	356.7	344.6	334.7
55°	394.8	387.4	380.0	372.5	365.1	354.9	342.0	329.1	316.2	303.3	294.4
57.5°	358.5	350.4	342.2	334.1	326.0	315.5	302.6	289.6	276.6	263.7	255.4
60°	333.3	325.0	316.6	308.3	300.0	289.4	276.9	264.3	251.6	239.1	230.9
62.5°	308.2	299.9	291.5	283.1	274.8	264.3	251.7	239.2	226.5	213.9	206.3
65°	269.8	261.4	253.2	244.8	236.4	226.3	214.5	202.7	190.8	179.0	171.6
67.5°	231.4	223.0	214.5	206.1	197.7	187.8	176.4	165.1	153.7	142.3	136.8
70°	206.3	198.0	189.9	181.7	173.5	164.1	153.5	142.9	132.2	121.6	116.3
72.5°	181.1	173.1	165.0	156.9	148.8	140.0	130.4	120.6	111.0	101.4	97.0
75°	142.8	135.5	128.2	120.9	113.6	105.8	97.5	89.1	80.8	72.4	70.9
77.5°	107.8	101.2	94.6	88.0	81.4	75.4	70.1	64.7	59.3	53.9	53.1
80°	85.4	79.2	72.9	66.7	60.5	55.8	52.6	49.4	46.2	43.1	42.5
82.5°	64.1	58.7	53.3	48.0	42.5	39.1	37.6	36.2	34.7	33.2	32.7
85°	36.2	32.9	29.5	26.2	22.8	21.0	20.5	20.1	19.6	19.1	18.8
87.5°	13.2	11.9	10.8	9.6	8.4	7.8	8.1	8.3	8.5	8.6	8.6
90°	0.4	1.0	1.7	2.4	3.1	3.9	4.8	5.7	6.7	7.6	7.8
92.5°	5.9	5.7	5.4	5.3	5.1	5.4	6.0	6.7	7.4	8.0	8.5
95°	19.3	16.3	13.5	10.6	7.8	6.7	7.5	8.2	9.0	9.8	10.3
97.5°	38.6	37.4	36.0	34.8	33.4	30.3	25.2	20.2	15.2	10.2	10.7
100°	53.2	54.7	56.1	57.4	58.9	54.1	43.2	32.3	21.3	10.4	11.0
102.5°	69.9	70.9	71.9	72.9	73.9	68.5	56.5	44.6	32.6	20.8	19.0
105°	93.9	94.7	95.4	96.2	97.0	94.3	87.9	81.6	75.3	69.0	56.6
107.5°	119.2	119.8	120.5	121.1	121.7	122.5	123.5	124.5	125.5	126.4	117.3
110°	136.2	136.7	137.2	137.8	138.4	139.0	139.8	140.5	141.3	142.1	139.8



TEST NUMBER: P332273-940

CATALOG NUMBER: S123RDIP-S560D365U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	152.2	152.8	153.3	153.7	154.3	154.9	155.7	156.5	157.2	158.0	158.0
115°	176.1	176.6	177.0	177.4	177.8	178.3	179.0	179.6	180.2	180.8	181.6
117.5°	199.3	199.8	200.3	200.8	201.3	201.8	202.1	202.4	202.8	203.0	203.6
120°	213.7	214.3	214.9	215.5	216.2	216.6	216.8	217.0	217.2	217.4	218.0
122.5°	228.3	228.8	229.3	229.8	230.3	230.7	231.0	231.2	231.5	231.8	232.2
125°	248.3	248.9	249.4	249.9	250.6	250.9	251.3	251.6	251.8	252.1	252.3
127.5°	267.7	268.3	268.9	269.4	269.9	270.4	270.7	271.1	271.4	271.7	272.0
130°	279.8	280.4	280.9	281.5	282.0	282.5	282.8	283.0	283.3	283.6	283.8
132.5°	291.4	291.9	292.6	293.1	293.6	294.0	294.3	294.5	294.7	295.0	295.2
135°	309.2	309.5	310.0	310.4	310.8	311.1	311.4	311.7	312.0	312.3	312.5
137.5°	324.2	324.8	325.3	325.8	326.4	326.7	326.9	327.0	327.2	327.3	327.7
140°	334.3	334.7	335.2	335.6	336.0	336.4	336.5	336.7	337.0	337.2	337.4
142.5°	343.7	344.1	344.5	344.9	345.4	345.6	345.9	346.1	346.3	346.5	346.7
145°	356.7	357.2	357.7	358.2	358.6	359.0	359.1	359.3	359.4	359.5	359.7
147.5°	369.0	369.3	369.6	370.0	370.2	370.5	370.7	370.8	371.0	371.0	371.2
150°	376.6	376.7	376.9	377.2	377.4	377.6	377.7	377.8	378.0	378.1	378.3
152.5°	383.3	383.4	383.5	383.6	383.7	383.9	383.9	384.0	384.1	384.1	384.4
155°	393.0	392.8	392.6	392.5	392.4	392.4	392.4	392.4	392.5	392.6	393.0
157.5°	400.4	400.4	400.4	400.3	400.3	400.3	400.2	400.1	400.0	400.0	400.4
160°	404.9	404.8	404.7	404.7	404.7	404.6	404.5	404.4	404.4	404.3	404.7
162.5°	409.2	409.0	408.8	408.7	408.5	408.3	408.2	408.2	408.1	408.0	408.5
165°	414.4	414.1	413.9	413.8	413.5	413.4	413.3	413.2	413.1	413.1	413.7
167.5°	418.4	418.1	417.9	417.6	417.2	417.1	417.1	417.1	417.1	417.1	417.7
170°	420.6	420.4	420.1	419.8	419.5	419.4	419.4	419.4	419.4	419.4	420.0
172.5°	422.1	421.9	421.5	421.2	420.8	420.7	420.7	420.8	420.9	420.9	421.5
175°	424.1	423.7	423.4	423.1	422.8	422.6	422.7	422.8	422.8	422.8	423.4
177.5°	424.6	424.4	424.1	423.8	423.5	423.4	423.5	423.5	423.6	423.7	424.1
180°	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1



TEST NUMBER: P332273-940

CATALOG NUMBER: S123RDIP-S560D365U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2
2.5°	838.9	840.3	841.6	842.1	841.9	841.6	841.4	841.2
5°	833.3	834.7	836.1	836.6	836.3	836.0	835.7	835.4
7.5°	821.6	822.3	823.1	823.2	822.7	822.2	821.7	821.2
10°	811.1	811.3	811.4	811.1	810.4	809.6	808.9	808.1
12.5°	798.1	798.0	797.9	797.4	796.5	795.6	794.8	793.9
15°	775.2	774.4	773.6	772.7	771.6	770.6	769.5	768.5
17.5°	747.8	746.2	744.5	743.0	741.4	739.8	738.2	736.6
20°	729.0	727.0	725.1	723.2	721.3	719.5	717.6	715.9
22.5°	708.9	706.4	704.0	701.9	700.2	698.5	696.8	695.1
25°	676.0	672.8	669.7	667.2	665.6	663.9	662.2	660.5
27.5°	640.2	635.8	631.3	627.9	625.3	622.8	620.2	617.6
30°	614.7	609.5	604.4	600.6	598.2	595.8	593.3	590.8
32.5°	589.7	584.0	578.4	574.3	571.8	569.2	566.6	564.1
35°	552.5	546.0	539.5	534.8	532.1	529.4	526.6	523.9
37.5°	512.6	505.2	497.8	492.5	489.1	485.7	482.3	478.9
40°	484.9	477.0	469.1	463.4	459.9	456.5	453.0	449.4
42.5°	458.3	449.7	441.0	435.2	432.0	428.9	425.8	422.7
45°	419.2	410.5	401.9	395.7	392.1	388.4	384.8	381.1
47.5°	378.7	369.3	359.9	353.6	350.4	347.1	343.8	340.5
50°	351.4	342.0	332.6	326.1	322.6	319.1	315.7	312.2
52.5°	325.0	315.2	305.4	299.0	295.9	292.7	289.6	286.5
55°	285.7	276.9	268.0	262.2	259.1	256.1	253.1	250.0
57.5°	247.0	238.7	230.4	225.0	222.4	219.8	217.2	214.6
60°	222.7	214.5	206.3	200.9	198.3	195.7	193.1	190.6
62.5°	198.5	190.8	183.1	177.9	175.2	172.5	169.8	167.1
65°	164.1	156.7	149.2	144.6	143.0	141.3	139.6	137.9
67.5°	131.3	125.6	120.1	116.5	114.7	112.9	111.1	109.3
70°	110.9	105.7	100.3	96.8	95.1	93.5	91.8	90.2
72.5°	92.6	88.4	84.0	81.5	80.8	80.1	79.4	78.6
75°	69.4	67.9	66.3	65.5	65.1	64.8	64.5	64.2
77.5°	52.3	51.5	50.6	50.1	49.8	49.5	49.2	48.9
80°	42.1	41.6	41.2	40.8	40.6	40.2	39.9	39.6
82.5°	32.3	31.8	31.4	31.1	31.0	31.0	30.9	30.9
85°	18.5	18.2	17.9	17.7	17.7	17.7	17.7	17.7
87.5°	8.5	8.4	8.4	8.3	8.2	8.1	8.0	7.9
90°	8.1	8.4	8.6	8.9	9.0	9.2	9.3	9.5
92.5°	9.0	9.5	9.9	10.2	10.2	10.3	10.3	10.4
95°	10.8	11.2	11.8	11.9	11.9	11.9	11.9	11.9
97.5°	11.2	11.9	12.4	12.7	12.8	12.8	12.9	13.0
100°	11.5	12.0	12.7	12.9	13.0	13.1	13.2	13.2
102.5°	17.3	15.5	13.8	13.0	13.1	13.2	13.4	13.5
105°	44.2	31.8	19.4	13.3	13.5	13.6	13.7	13.8
107.5°	108.3	99.2	90.2	80.9	71.6	62.2	52.9	43.5
110°	137.5	135.2	132.9	126.7	116.7	106.6	96.7	86.7



TEST NUMBER: P332273-940

CATALOG NUMBER: S123RDIP-S560D365U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	158.1	158.1	158.2	157.1	155.0	152.9	150.8	148.6
115°	182.3	183.0	183.7	184.1	184.4	184.8	185.0	185.3
117.5°	204.2	204.7	205.3	205.6	205.6	205.7	205.8	205.8
120°	218.6	219.1	219.6	220.0	220.0	220.0	220.0	220.0
122.5°	232.6	233.0	233.4	233.5	233.6	233.7	233.7	233.8
125°	252.4	252.5	252.6	252.8	252.9	253.1	253.2	253.3
127.5°	272.2	272.4	272.7	272.7	272.5	272.4	272.2	272.2
130°	284.2	284.5	284.7	284.8	284.6	284.5	284.4	284.2
132.5°	295.5	295.8	296.0	296.1	295.9	295.7	295.5	295.3
135°	312.7	312.9	313.1	313.1	312.9	312.7	312.5	312.3
137.5°	328.0	328.3	328.7	328.8	328.6	328.5	328.3	328.2
140°	337.7	338.0	338.3	338.3	338.2	338.0	338.0	337.8
142.5°	347.0	347.1	347.4	347.4	347.2	347.0	346.8	346.6
145°	359.8	360.0	360.1	360.2	360.2	360.2	360.2	360.2
147.5°	371.3	371.5	371.7	371.6	371.2	370.9	370.6	370.2
150°	378.4	378.5	378.7	378.6	378.4	378.3	378.0	377.8
152.5°	384.7	385.0	385.2	385.1	384.9	384.5	384.1	383.9
155°	393.3	393.7	394.0	394.0	393.6	393.2	392.7	392.3
157.5°	400.8	401.3	401.7	401.6	401.1	400.6	399.9	399.4
160°	405.1	405.6	406.0	405.9	405.5	404.9	404.5	403.9
162.5°	409.0	409.5	409.9	410.0	409.6	409.1	408.7	408.2
165°	414.2	414.8	415.4	415.4	414.9	414.4	413.9	413.4
167.5°	418.2	418.8	419.4	419.4	418.8	418.2	417.7	417.1
170°	420.5	421.1	421.6	421.6	421.1	420.5	420.0	419.4
172.5°	422.0	422.6	423.1	423.1	422.5	421.9	421.2	420.6
175°	423.8	424.4	424.8	424.8	424.3	423.7	423.1	422.6
177.5°	424.5	425.0	425.4	425.3	424.8	424.3	423.7	423.1
180°	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1

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