

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: P332416-930

Luminaire Tested: **S123RDIW-S560D755U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332416-930
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-S560D755U930-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 755 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4204.5 lumens
Efficiency: N/A
Efficacy: 111.8 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

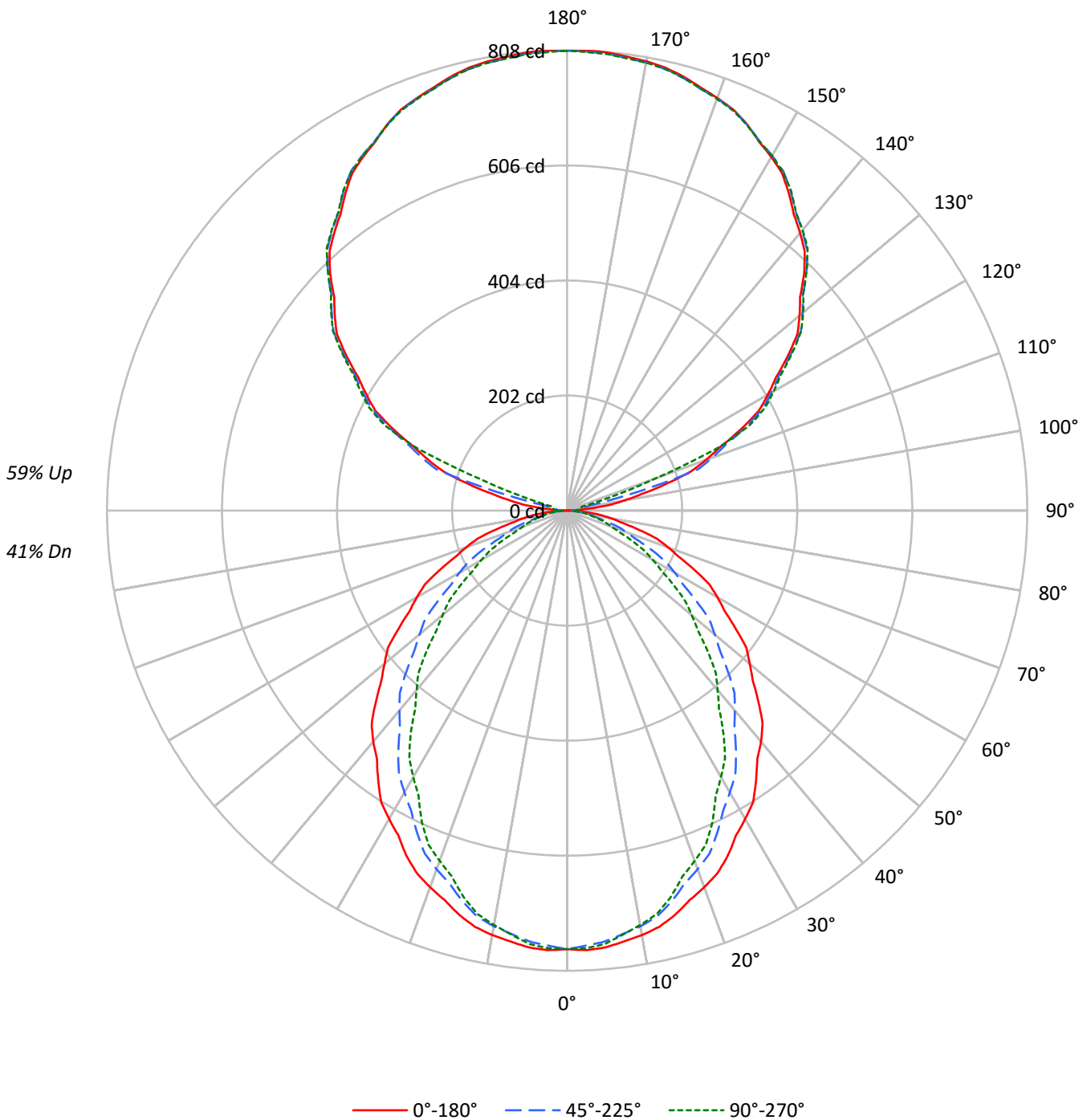
Input Watts (W): 37.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332416-930

CATALOG NUMBER: S123RDIW-S560D755U930-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P332416-930

CATALOG NUMBER: S123RDIW-S560D755U930-4F0-1E-UDD-F

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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	48	48	48	41
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41	35
2	88	81	75	70	80	74	69	64	61	57	54	49	47	44	38	37	35	30
3	80	71	64	58	73	65	59	54	54	49	46	44	40	38	34	32	30	26
4	73	63	55	49	67	58	51	46	48	43	39	39	35	33	31	28	26	22
5	67	56	48	42	61	52	45	40	43	38	34	35	31	28	28	25	23	20
6	62	50	43	37	57	46	39	34	39	34	30	32	28	25	25	22	20	17
7	57	46	38	32	52	42	35	30	35	30	26	29	25	22	23	20	18	15
8	53	41	34	29	49	38	31	27	32	27	23	26	23	20	21	18	16	14
9	50	38	30	25	45	35	28	24	29	24	21	24	21	18	20	17	15	13
10	46	35	28	23	42	32	26	21	27	22	19	23	19	16	18	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8289	8289	8289
5°	8321	8206	8253
10°	8273	8103	8075
15°	8184	7913	7830
20°	8062	7676	7497
25°	7936	7410	7172
30°	7771	7102	6714
35°	7599	6795	6294
40°	7442	6433	5774
45°	7234	6075	5305
50°	7006	5668	4779
55°	6775	5204	4290
60°	6562	4706	3750
65°	6283	4167	3212
70°	5936	3500	2593
75°	5427	2753	2441
80°	4841	2442	2244
85°	4088	2149	2001



TEST NUMBER: P332416-930

CATALOG NUMBER: S123RDIW-S560D755U930-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.3	1.7
10°-20°	201.2	4.8
20°-30°	289.7	6.9
30°-40°	326.3	7.8
40°-50°	312.2	7.4
50°-60°	255.7	6.1
60°-70°	172.5	4.1
70°-80°	86.8	2.1
80°-90°	25.2	0.6
90°-100°	29.4	0.7
100°-110°	139.9	3.3
110°-120°	336.1	8.0
120°-130°	428.0	10.2
130°-140°	457.3	10.9
140°-150°	427.6	10.2
150°-160°	344.9	8.2
160°-170°	222.6	5.3
170°-180°	76.7	1.8
0°-30°	563.2	13.4
0°-40°	889.5	21.2
0°-60°	1457.4	34.7
0°-90°	1741.9	41.4
90°-120°	505.4	12.0
90°-150°	1818.3	43.2
90°-180°	2463.0	58.6
0°-180°	4204.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	770	770	770	770	770	
5°	770	767	760	765	764	73
15°	734	727	710	707	703	207
25°	668	652	624	611	604	307
35°	578	555	517	491	479	362
45°	475	446	399	365	348	367
55°	361	329	277	242	229	324
65°	247	212	164	134	126	244
75°	130	100	66	60	59	139
85°	33	20	17	16	16	37
90°	1	7	14	17	18	3
95°	37	14	19	23	23	45
105°	179	182	131	31	26	190
115°	335	339	344	350	353	331
125°	473	477	480	481	482	422
135°	589	592	594	596	594	453
145°	679	683	684	686	686	425
155°	748	747	748	750	747	345
165°	789	787	786	791	787	223
175°	808	805	805	809	804	77
180°	808	808	808	808	808	



TEST NUMBER: P332416-930

CATALOG NUMBER: S123RDIW-S560D755U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1
2.5°	772.6	772.1	771.7	771.2	770.8	769.9	768.6	767.2	765.9	764.6	765.8
5°	770.1	769.4	768.7	768.0	767.3	766.1	764.4	762.8	761.1	759.5	760.7
7.5°	763.0	762.2	761.4	760.7	759.9	758.5	756.4	754.2	752.0	749.8	750.5
10°	756.9	755.9	755.0	754.0	753.1	751.3	748.9	746.3	743.8	741.4	741.4
12.5°	748.4	747.4	746.2	745.2	744.1	742.1	739.0	736.0	732.9	729.9	729.8
15°	734.4	733.0	731.4	729.9	728.4	725.6	721.8	717.9	714.0	710.1	709.4
17.5°	716.8	715.1	713.3	711.5	709.7	706.4	701.4	696.5	691.5	686.6	685.2
20°	703.8	701.6	699.4	697.2	695.0	691.2	685.9	680.7	675.4	670.1	668.3
22.5°	689.3	686.8	684.3	681.7	679.1	675.1	669.4	663.8	658.3	652.6	650.4
25°	668.2	664.8	661.3	657.9	654.4	649.5	643.0	636.7	630.3	623.9	621.0
27.5°	642.6	638.8	635.0	631.1	627.3	621.8	614.7	607.6	600.5	593.5	589.4
30°	625.2	621.0	616.9	612.7	608.5	602.5	594.8	587.0	579.2	571.4	566.7
32.5°	607.6	603.0	598.3	593.5	588.8	582.4	574.1	565.9	557.7	549.4	544.3
35°	578.3	573.3	568.3	563.4	558.3	551.5	542.9	534.3	525.7	517.1	511.1
37.5°	548.6	543.1	537.5	531.9	526.4	519.0	509.8	500.7	491.5	482.2	475.5
40°	529.6	523.5	517.4	511.3	505.2	497.2	487.4	477.5	467.7	457.8	450.5
42.5°	508.1	502.0	495.9	489.8	483.7	475.6	465.4	455.2	445.0	434.8	426.9
45°	475.2	469.0	462.8	456.6	450.3	441.8	431.1	420.4	409.8	399.1	391.2
47.5°	442.4	435.5	428.7	421.8	415.0	406.3	395.5	384.8	374.1	363.5	354.9
50°	418.4	411.9	405.4	398.8	392.3	383.4	372.2	361.0	349.8	338.5	329.9
52.5°	397.0	389.9	382.8	375.7	368.7	359.5	348.4	337.3	326.1	315.0	306.1
55°	361.0	354.2	347.4	340.6	333.8	324.5	312.7	300.9	289.1	277.3	269.2
57.5°	327.8	320.3	312.9	305.5	298.1	288.5	276.6	264.8	252.9	241.1	233.5
60°	304.8	297.2	289.5	281.8	274.3	264.6	253.2	241.7	230.1	218.6	211.1
62.5°	281.8	274.2	266.5	258.9	251.3	241.7	230.2	218.7	207.1	195.6	188.6
65°	246.7	239.0	231.5	223.8	216.1	206.9	196.1	185.3	174.5	163.6	156.9
67.5°	211.6	203.9	196.2	188.4	180.8	171.7	161.3	150.9	140.6	130.1	125.1
70°	188.6	181.1	173.7	166.2	158.7	150.0	140.3	130.6	120.9	111.2	106.3
72.5°	165.6	158.2	150.8	143.5	136.1	128.0	119.2	110.3	101.5	92.7	88.7
75°	130.5	123.8	117.2	110.6	103.9	96.7	89.1	81.4	73.9	66.2	64.8
77.5°	98.6	92.5	86.5	80.5	74.4	69.0	64.1	59.2	54.2	49.3	48.6
80°	78.1	72.4	66.7	61.0	55.3	51.0	48.1	45.2	42.2	39.4	38.9
82.5°	58.6	53.6	48.8	43.9	38.9	35.8	34.4	33.1	31.7	30.3	29.9
85°	33.1	30.1	27.0	24.0	20.9	19.2	18.8	18.3	17.9	17.4	17.2
87.5°	12.1	11.2	10.2	9.2	8.3	8.0	8.3	8.6	9.0	9.4	9.4
90°	0.6	2.0	3.3	4.6	6.0	7.5	9.2	10.9	12.6	14.4	14.9
92.5°	11.2	10.8	10.4	10.0	9.7	10.1	11.4	12.7	14.0	15.3	16.2
95°	36.6	31.1	25.7	20.2	14.8	12.7	14.2	15.7	17.1	18.6	19.6
97.5°	73.5	71.1	68.6	66.2	63.8	57.7	48.1	38.5	28.9	19.3	20.4
100°	101.4	104.0	106.7	109.4	112.0	103.0	82.2	61.4	40.6	19.8	20.9
102.5°	133.1	135.0	136.9	138.8	140.7	130.4	107.6	84.9	62.2	39.5	36.2
105°	178.8	180.3	181.7	183.2	184.7	179.4	167.4	155.4	143.4	131.4	107.8
107.5°	227.0	228.2	229.3	230.6	231.7	233.3	235.1	237.0	239.0	240.8	223.5
110°	259.2	260.2	261.3	262.4	263.4	264.7	266.2	267.7	269.1	270.6	266.2



TEST NUMBER: P332416-930

CATALOG NUMBER: S123RDIW-S560D755U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	289.9	290.8	291.8	292.8	293.8	295.0	296.4	297.9	299.4	300.8	300.9
115°	335.3	336.1	337.0	337.8	338.6	339.6	340.8	341.9	343.2	344.4	345.7
117.5°	379.4	380.4	381.4	382.4	383.4	384.2	384.7	385.4	386.0	386.6	387.7
120°	406.8	408.0	409.2	410.3	411.6	412.4	412.8	413.2	413.6	413.9	415.1
122.5°	434.6	435.6	436.6	437.6	438.5	439.3	439.8	440.3	440.8	441.3	442.1
125°	472.8	473.9	474.9	476.0	477.0	477.8	478.3	478.9	479.4	480.0	480.2
127.5°	509.7	510.8	511.8	512.9	514.0	514.9	515.5	516.1	516.7	517.4	517.8
130°	532.7	533.9	534.9	536.0	537.0	537.9	538.3	538.9	539.4	540.0	540.5
132.5°	554.8	555.9	556.9	558.0	559.1	559.9	560.3	560.7	561.1	561.6	562.1
135°	588.6	589.4	590.1	590.9	591.7	592.4	593.0	593.5	594.0	594.5	594.9
137.5°	617.3	618.3	619.4	620.4	621.4	622.1	622.3	622.6	623.0	623.2	623.9
140°	636.5	637.3	638.1	639.0	639.8	640.3	640.7	641.2	641.6	642.0	642.5
142.5°	654.3	655.1	655.9	656.7	657.5	658.1	658.5	658.9	659.3	659.7	660.1
145°	679.1	680.0	681.0	681.9	682.9	683.5	683.7	684.0	684.3	684.5	684.8
147.5°	702.5	703.1	703.8	704.3	705.0	705.4	705.7	706.0	706.2	706.5	706.8
150°	717.0	717.3	717.7	718.1	718.5	718.8	719.2	719.4	719.7	719.9	720.2
152.5°	729.9	730.1	730.3	730.4	730.7	730.8	731.0	731.2	731.3	731.5	731.9
155°	748.1	747.9	747.6	747.3	747.1	747.0	747.1	747.3	747.4	747.5	748.2
157.5°	762.3	762.3	762.2	762.2	762.2	762.1	762.0	761.8	761.7	761.6	762.4
160°	770.9	770.8	770.7	770.5	770.4	770.3	770.1	770.0	769.9	769.7	770.5
162.5°	779.1	778.8	778.4	778.0	777.7	777.5	777.3	777.2	777.1	776.9	777.9
165°	789.0	788.6	788.1	787.7	787.3	787.1	786.9	786.8	786.7	786.5	787.6
167.5°	796.6	796.1	795.6	795.0	794.5	794.2	794.2	794.2	794.2	794.2	795.2
170°	801.0	800.4	799.9	799.3	798.8	798.5	798.5	798.5	798.5	798.5	799.6
172.5°	803.8	803.2	802.5	801.9	801.3	801.0	801.1	801.2	801.3	801.4	802.5
175°	807.6	806.8	806.2	805.5	804.9	804.6	804.7	804.9	805.0	805.1	806.1
177.5°	808.5	808.0	807.4	806.9	806.3	806.2	806.2	806.3	806.5	806.6	807.4
180°	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6



TEST NUMBER: P332416-930

CATALOG NUMBER: S123RDIW-S560D755U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1
2.5°	767.0	768.3	769.5	770.0	769.7	769.5	769.3	769.1
5°	761.9	763.2	764.4	764.9	764.7	764.3	764.1	763.8
7.5°	751.2	751.9	752.6	752.7	752.2	751.8	751.3	750.8
10°	741.6	741.8	741.8	741.6	740.9	740.2	739.6	738.8
12.5°	729.7	729.6	729.5	729.0	728.2	727.4	726.7	725.9
15°	708.7	708.0	707.4	706.5	705.5	704.6	703.6	702.6
17.5°	683.7	682.2	680.7	679.3	677.8	676.4	674.9	673.5
20°	666.5	664.7	662.9	661.2	659.5	657.9	656.2	654.5
22.5°	648.2	645.9	643.7	641.7	640.2	638.6	637.1	635.5
25°	618.1	615.1	612.3	610.0	608.5	607.0	605.4	603.9
27.5°	585.3	581.3	577.2	574.1	571.7	569.4	567.0	564.7
30°	562.0	557.3	552.6	549.1	546.9	544.7	542.4	540.2
32.5°	539.2	533.9	528.8	525.1	522.8	520.4	518.0	515.8
35°	505.2	499.2	493.3	489.0	486.5	484.0	481.5	479.0
37.5°	468.7	461.9	455.2	450.3	447.2	444.1	441.0	437.9
40°	443.4	436.1	428.9	423.7	420.5	417.4	414.2	410.9
42.5°	419.1	411.2	403.2	397.9	395.0	392.2	389.3	386.5
45°	383.3	375.4	367.5	361.8	358.5	355.1	351.8	348.5
47.5°	346.3	337.7	329.1	323.3	320.3	317.3	314.4	311.4
50°	321.3	312.7	304.1	298.2	295.0	291.8	288.6	285.4
52.5°	297.2	288.2	279.2	273.4	270.5	267.7	264.8	262.0
55°	261.2	253.2	245.1	239.7	236.9	234.2	231.4	228.6
57.5°	225.8	218.3	210.7	205.7	203.3	201.0	198.6	196.2
60°	203.6	196.1	188.6	183.7	181.3	179.0	176.6	174.2
62.5°	181.5	174.5	167.4	162.7	160.2	157.7	155.2	152.8
65°	150.0	143.2	136.4	132.2	130.8	129.2	127.7	126.1
67.5°	120.0	114.9	109.8	106.5	104.8	103.2	101.6	100.0
70°	101.4	96.6	91.7	88.5	87.0	85.5	84.0	82.4
72.5°	84.7	80.8	76.8	74.5	73.9	73.2	72.6	71.9
75°	63.4	62.0	60.7	59.8	59.5	59.3	58.9	58.7
77.5°	47.9	47.1	46.3	45.8	45.6	45.2	45.0	44.7
80°	38.5	38.1	37.7	37.3	37.1	36.8	36.5	36.2
82.5°	29.5	29.1	28.7	28.5	28.4	28.4	28.3	28.2
85°	17.0	16.6	16.4	16.2	16.2	16.2	16.2	16.2
87.5°	9.4	9.4	9.4	9.3	9.3	9.2	9.1	9.1
90°	15.5	16.0	16.6	17.0	17.2	17.4	17.7	18.0
92.5°	17.0	17.9	18.8	19.2	19.4	19.6	19.7	19.9
95°	20.5	21.4	22.3	22.8	22.8	22.8	22.8	22.8
97.5°	21.4	22.5	23.6	24.2	24.3	24.5	24.6	24.7
100°	21.9	23.0	24.1	24.7	24.8	24.9	25.0	25.2
102.5°	32.9	29.6	26.3	24.7	24.9	25.2	25.4	25.7
105°	84.2	60.6	37.0	25.4	25.6	25.8	26.2	26.4
107.5°	206.2	188.9	171.6	154.1	136.2	118.5	100.7	82.9
110°	261.8	257.4	253.0	241.2	222.2	203.1	184.0	165.0



TEST NUMBER: P332416-930

CATALOG NUMBER: S123RDIW-S560D755U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	301.0	301.1	301.2	299.1	295.1	291.1	287.1	283.1
115°	347.1	348.4	349.7	350.7	351.1	351.7	352.2	352.8
117.5°	388.7	389.8	390.9	391.4	391.6	391.7	391.8	391.9
120°	416.1	417.2	418.2	418.7	418.7	418.7	418.7	418.7
122.5°	442.8	443.5	444.3	444.7	444.8	444.9	445.1	445.2
125°	480.5	480.8	481.0	481.3	481.6	481.8	482.1	482.3
127.5°	518.3	518.7	519.1	519.2	518.9	518.6	518.4	518.1
130°	541.0	541.5	542.1	542.3	541.9	541.7	541.4	541.1
132.5°	562.6	563.1	563.7	563.8	563.4	563.0	562.6	562.2
135°	595.3	595.7	596.1	596.1	595.7	595.3	594.9	594.5
137.5°	624.5	625.2	625.8	626.0	625.7	625.4	625.2	624.9
140°	643.0	643.5	644.1	644.2	643.9	643.7	643.4	643.1
142.5°	660.6	661.0	661.4	661.5	661.0	660.7	660.3	659.9
145°	685.1	685.3	685.6	685.7	685.7	685.7	685.7	685.7
147.5°	707.0	707.3	707.6	707.4	706.8	706.1	705.6	704.9
150°	720.5	720.7	721.0	721.0	720.6	720.2	719.7	719.3
152.5°	732.4	732.9	733.4	733.3	732.7	732.1	731.5	730.8
155°	748.9	749.5	750.2	750.2	749.3	748.5	747.7	746.9
157.5°	763.2	763.9	764.8	764.7	763.6	762.5	761.6	760.5
160°	771.4	772.2	772.9	772.9	771.9	771.0	770.1	769.2
162.5°	778.8	779.7	780.6	780.6	779.8	778.9	778.1	777.3
165°	788.6	789.7	790.8	790.8	789.9	789.0	788.1	787.1
167.5°	796.3	797.4	798.5	798.5	797.4	796.3	795.2	794.2
170°	800.6	801.8	802.8	802.8	801.8	800.6	799.6	798.5
172.5°	803.6	804.6	805.7	805.6	804.5	803.3	802.1	801.0
175°	807.0	808.0	808.9	808.8	807.7	806.7	805.6	804.5
177.5°	808.3	809.1	810.0	809.8	808.8	807.7	806.7	805.6
180°	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6

(END OF REPORT)