

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: P332273-830

Luminaire Tested: **S123RDIP-S560D365U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332273-830
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-S560D365U830-4F0-1E-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: 3379.5 lumens
Efficiency: N/A
Efficacy: 122.9 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

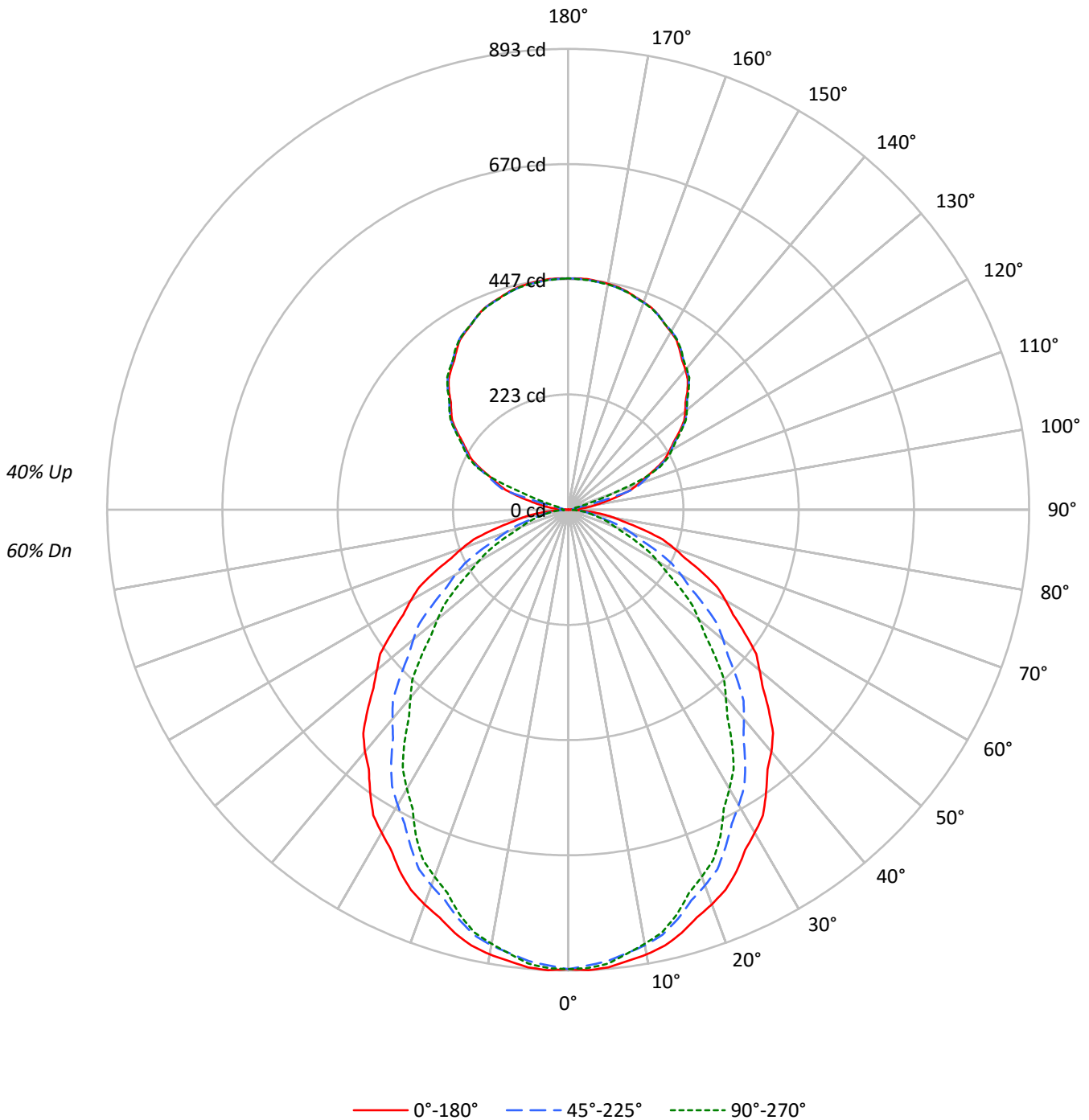
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332273-830

CATALOG NUMBER: S123RDIP-S560D365U830-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P332273-830

CATALOG NUMBER: S123RDIP-S560D365U830-4F0-1E-UDD-F

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	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°	9582	9582	9582
5°	9619	9487	9541
10°	9565	9368	9335
15°	9461	9149	9052
20°	9321	8874	8668
25°	9175	8567	8291
30°	8983	8211	7762
35°	8784	7857	7276
40°	8604	7436	6674
45°	8363	7024	6132
50°	8100	6553	5526
55°	7833	6016	4960
60°	7584	5440	4336
65°	7264	4819	3713
70°	6861	4047	2999
75°	6276	3182	2824
80°	5597	2820	2591
85°	4730	2495	2322



TEST NUMBER: P332273-830

CATALOG NUMBER: S123RDIP-S560D365U830-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.6	2.5
10°-20°	232.6	6.9
20°-30°	334.9	9.9
30°-40°	377.3	11.2
40°-50°	360.9	10.7
50°-60°	295.6	8.7
60°-70°	199.4	5.9
70°-80°	100.3	3.0
80°-90°	27.8	0.8
90°-100°	16.3	0.5
100°-110°	77.7	2.3
110°-120°	186.6	5.5
120°-130°	237.6	7.0
130°-140°	253.9	7.5
140°-150°	237.4	7.0
150°-160°	191.5	5.7
160°-170°	123.6	3.7
170°-180°	42.6	1.3
0°-30°	651.1	19.3
0°-40°	1028.4	30.4
0°-60°	1684.8	49.9
0°-90°	2012.4	59.5
90°-120°	280.6	8.3
90°-150°	1009.4	29.9
90°-180°	1367.0	40.4
0°-180°	3379.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	890	890	890	890	890	
5°	890	886	878	884	883	84
15°	849	840	821	817	812	239
25°	772	754	721	706	698	355
35°	668	642	598	568	554	418
45°	549	516	461	422	403	424
55°	417	380	321	280	264	374
65°	285	245	189	155	146	282
75°	151	116	76	70	68	161
85°	38	23	20	19	19	43
90°	0	4	8	9	10	3
95°	20	8	10	12	13	25
105°	99	101	73	17	15	105
115°	186	188	191	194	196	184
125°	262	265	266	267	268	234
135°	327	329	330	331	330	251
145°	377	379	380	381	381	236
155°	415	415	415	416	415	191
165°	438	437	437	439	437	124
175°	448	447	447	449	447	43
180°	448	448	448	448	448	



TEST NUMBER: P332273-830

CATALOG NUMBER: S123RDIP-S560D365U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2
2.5°	893.2	892.6	892.1	891.6	891.1	890.0	888.5	886.9	885.4	883.9	885.3
5°	890.2	889.5	888.6	887.9	887.0	885.7	883.7	881.8	879.9	878.0	879.4
7.5°	882.0	881.2	880.2	879.4	878.5	876.8	874.4	871.9	869.3	866.9	867.6
10°	875.1	873.9	872.8	871.7	870.6	868.6	865.7	862.8	859.9	857.1	857.1
12.5°	865.3	864.0	862.7	861.5	860.3	857.9	854.3	850.8	847.3	843.8	843.7
15°	849.0	847.3	845.6	843.8	842.1	838.9	834.4	829.9	825.4	821.0	820.1
17.5°	828.7	826.7	824.6	822.6	820.5	816.6	810.9	805.2	799.5	793.8	792.1
20°	813.7	811.2	808.6	806.0	803.4	799.1	793.0	786.9	780.8	774.7	772.6
22.5°	796.9	794.0	791.1	788.1	785.1	780.4	773.9	767.4	761.0	754.5	751.9
25°	772.5	768.5	764.5	760.5	756.5	750.8	743.4	736.0	728.7	721.3	717.9
27.5°	742.9	738.5	734.1	729.6	725.2	718.9	710.7	702.5	694.3	686.1	681.4
30°	722.7	717.9	713.1	708.3	703.5	696.5	687.6	678.6	669.6	660.6	655.2
32.5°	702.5	697.1	691.6	686.2	680.7	673.3	663.7	654.2	644.7	635.2	629.2
35°	668.5	662.8	657.0	651.3	645.5	637.6	627.6	617.7	607.8	597.9	590.9
37.5°	634.2	627.8	621.4	614.9	608.5	600.0	589.4	578.8	568.2	557.5	549.7
40°	612.3	605.2	598.1	591.1	584.0	574.8	563.5	552.0	540.6	529.2	520.8
42.5°	587.4	580.3	573.3	566.3	559.2	549.8	538.0	526.2	514.4	502.7	493.5
45°	549.4	542.2	535.0	527.8	520.6	510.8	498.4	486.1	473.7	461.4	452.2
47.5°	511.4	503.5	495.6	487.7	479.8	469.7	457.2	444.9	432.5	420.2	410.3
50°	483.7	476.2	468.6	461.1	453.6	443.3	430.3	417.4	404.4	391.3	381.4
52.5°	458.9	450.7	442.5	434.3	426.2	415.7	402.7	389.9	377.0	364.2	353.8
55°	417.4	409.4	401.6	393.7	385.9	375.1	361.5	347.9	334.2	320.6	311.2
57.5°	378.9	370.3	361.7	353.2	344.6	333.5	319.8	306.1	292.4	278.7	269.9
60°	352.3	343.6	334.7	325.8	317.1	305.9	292.7	279.4	266.0	252.7	244.0
62.5°	325.7	317.0	308.1	299.3	290.5	279.4	266.1	252.8	239.4	226.1	218.0
65°	285.2	276.4	267.6	258.7	249.9	239.2	226.7	214.2	201.7	189.2	181.3
67.5°	244.6	235.7	226.8	217.8	209.0	198.5	186.4	174.5	162.5	150.4	144.6
70°	218.0	209.3	200.8	192.1	183.4	173.4	162.2	151.0	139.8	128.6	122.9
72.5°	191.4	182.9	174.4	165.9	157.3	148.0	137.8	127.5	117.3	107.2	102.5
75°	150.9	143.2	135.5	127.8	120.1	111.8	103.0	94.2	85.4	76.5	74.9
77.5°	114.0	107.0	100.0	93.0	86.1	79.7	74.1	68.4	62.7	57.0	56.2
80°	90.3	83.7	77.1	70.5	63.9	59.0	55.6	52.2	48.8	45.5	45.0
82.5°	67.8	62.0	56.4	50.7	45.0	41.4	39.8	38.3	36.7	35.1	34.6
85°	38.3	34.8	31.2	27.7	24.1	22.1	21.7	21.2	20.7	20.2	19.9
87.5°	13.9	12.6	11.4	10.2	8.9	8.3	8.6	8.8	9.0	9.1	9.0
90°	0.4	1.0	1.8	2.5	3.3	4.1	5.1	6.0	7.1	8.0	8.3
92.5°	6.2	6.0	5.7	5.6	5.4	5.7	6.3	7.1	7.8	8.5	9.0
95°	20.4	17.2	14.2	11.2	8.2	7.1	7.9	8.7	9.5	10.4	10.8
97.5°	40.8	39.5	38.1	36.8	35.3	32.0	26.7	21.4	16.0	10.7	11.3
100°	56.3	57.8	59.3	60.7	62.2	57.2	45.6	34.1	22.5	11.0	11.6
102.5°	73.9	74.9	76.0	77.1	78.1	72.4	59.8	47.1	34.5	22.0	20.1
105°	99.2	100.1	100.9	101.7	102.5	99.6	92.9	86.2	79.6	73.0	59.9
107.5°	126.0	126.7	127.3	128.0	128.7	129.5	130.5	131.6	132.6	133.7	124.0
110°	143.9	144.5	145.1	145.6	146.3	146.9	147.8	148.5	149.4	150.2	147.8



TEST NUMBER: P332273-830

CATALOG NUMBER: S123RDIP-S560D365U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	160.9	161.5	162.0	162.5	163.1	163.7	164.6	165.4	166.2	167.0	167.0
115°	186.2	186.6	187.1	187.5	187.9	188.5	189.2	189.8	190.5	191.1	191.9
117.5°	210.7	211.2	211.7	212.3	212.8	213.3	213.6	214.0	214.3	214.6	215.2
120°	225.8	226.5	227.2	227.8	228.5	228.9	229.1	229.4	229.6	229.8	230.5
122.5°	241.3	241.9	242.3	242.9	243.5	243.8	244.1	244.4	244.7	245.0	245.4
125°	262.5	263.1	263.6	264.2	264.9	265.2	265.6	265.9	266.2	266.5	266.6
127.5°	283.0	283.6	284.2	284.7	285.3	285.8	286.2	286.5	286.9	287.2	287.5
130°	295.8	296.3	296.9	297.6	298.1	298.6	298.9	299.2	299.4	299.7	300.0
132.5°	308.0	308.6	309.2	309.8	310.4	310.8	311.0	311.3	311.5	311.8	312.1
135°	326.8	327.2	327.6	328.1	328.5	328.9	329.1	329.5	329.8	330.1	330.3
137.5°	342.7	343.3	343.8	344.4	345.0	345.3	345.5	345.6	345.8	346.0	346.4
140°	353.4	353.8	354.3	354.7	355.2	355.5	355.7	355.9	356.2	356.4	356.7
142.5°	363.3	363.7	364.1	364.6	365.0	365.3	365.6	365.8	366.0	366.3	366.5
145°	377.0	377.6	378.1	378.6	379.1	379.5	379.6	379.8	379.8	380.0	380.2
147.5°	390.0	390.4	390.7	391.1	391.3	391.6	391.8	391.9	392.1	392.2	392.4
150°	398.0	398.2	398.4	398.7	398.9	399.1	399.3	399.4	399.5	399.6	399.8
152.5°	405.2	405.3	405.4	405.5	405.6	405.8	405.8	405.9	406.0	406.0	406.3
155°	415.4	415.2	415.0	414.9	414.7	414.7	414.8	414.8	414.9	415.0	415.4
157.5°	423.2	423.2	423.2	423.1	423.1	423.1	423.0	422.9	422.8	422.8	423.2
160°	428.0	427.9	427.8	427.7	427.7	427.6	427.5	427.4	427.4	427.3	427.7
162.5°	432.5	432.3	432.2	432.0	431.8	431.6	431.5	431.5	431.4	431.3	431.8
165°	438.0	437.7	437.5	437.3	437.1	437.0	436.9	436.8	436.7	436.7	437.2
167.5°	442.2	442.0	441.7	441.4	441.0	440.9	440.9	440.9	440.9	440.9	441.5
170°	444.6	444.3	444.0	443.7	443.5	443.3	443.3	443.3	443.3	443.3	443.9
172.5°	446.2	445.9	445.5	445.2	444.8	444.7	444.7	444.8	444.9	444.9	445.5
175°	448.3	447.9	447.5	447.2	446.9	446.7	446.8	446.9	446.9	447.0	447.5
177.5°	448.8	448.6	448.3	448.0	447.6	447.5	447.6	447.6	447.7	447.8	448.3
180°	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3



TEST NUMBER: P332273-830

CATALOG NUMBER: S123RDIP-S560D365U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2
2.5°	886.7	888.2	889.6	890.1	889.9	889.6	889.4	889.1
5°	880.8	882.3	883.7	884.3	884.0	883.6	883.4	883.0
7.5°	868.5	869.2	870.1	870.2	869.6	869.1	868.6	868.0
10°	857.3	857.5	857.6	857.3	856.6	855.7	855.0	854.1
12.5°	843.6	843.5	843.4	842.8	841.9	840.9	840.1	839.1
15°	819.4	818.5	817.7	816.7	815.6	814.5	813.4	812.3
17.5°	790.4	788.7	786.9	785.3	783.6	781.9	780.2	778.6
20°	770.5	768.5	766.4	764.4	762.4	760.5	758.6	756.7
22.5°	749.3	746.7	744.1	741.9	740.1	738.3	736.5	734.7
25°	714.5	711.1	707.8	705.2	703.5	701.7	699.9	698.1
27.5°	676.7	672.0	667.3	663.6	660.9	658.3	655.5	652.8
30°	649.7	644.2	638.9	634.8	632.3	629.7	627.1	624.5
32.5°	623.3	617.3	611.3	607.0	604.4	601.6	598.9	596.3
35°	584.0	577.1	570.2	565.3	562.4	559.6	556.7	553.7
37.5°	541.9	534.0	526.2	520.6	517.0	513.4	509.8	506.2
40°	512.6	504.2	495.9	489.8	486.2	482.5	478.8	475.0
42.5°	484.5	475.3	466.2	460.0	456.7	453.4	450.1	446.8
45°	443.1	433.9	424.8	418.3	414.4	410.6	406.7	402.8
47.5°	400.3	390.4	380.4	373.7	370.3	366.8	363.4	360.0
50°	371.5	361.5	351.6	344.7	341.0	337.3	333.7	330.0
52.5°	343.6	333.2	322.8	316.0	312.7	309.4	306.1	302.8
55°	302.0	292.7	283.3	277.1	273.9	270.7	267.5	264.3
57.5°	261.1	252.3	243.6	237.8	235.1	232.3	229.6	226.9
60°	235.4	226.7	218.0	212.4	209.6	206.9	204.2	201.4
62.5°	209.8	201.7	193.5	188.0	185.2	182.3	179.5	176.6
65°	173.4	165.6	157.7	152.9	151.2	149.4	147.6	145.8
67.5°	138.7	132.8	127.0	123.1	121.2	119.3	117.4	115.6
70°	117.3	111.7	106.0	102.4	100.6	98.9	97.1	95.3
72.5°	97.9	93.4	88.8	86.1	85.4	84.6	83.9	83.1
75°	73.3	71.7	70.1	69.2	68.8	68.5	68.1	67.9
77.5°	55.3	54.5	53.5	53.0	52.7	52.3	52.0	51.7
80°	44.5	44.0	43.5	43.2	42.9	42.5	42.2	41.8
82.5°	34.1	33.6	33.2	32.9	32.8	32.8	32.7	32.6
85°	19.6	19.2	18.9	18.8	18.8	18.8	18.8	18.8
87.5°	9.0	8.9	8.9	8.8	8.7	8.6	8.5	8.4
90°	8.6	8.9	9.1	9.4	9.5	9.7	9.8	10.0
92.5°	9.5	10.0	10.5	10.7	10.7	10.8	10.9	11.0
95°	11.4	11.9	12.4	12.6	12.6	12.6	12.6	12.6
97.5°	11.9	12.5	13.1	13.4	13.5	13.6	13.7	13.8
100°	12.2	12.7	13.4	13.7	13.8	13.9	13.9	13.9
102.5°	18.3	16.4	14.6	13.8	13.9	13.9	14.1	14.2
105°	46.8	33.6	20.5	14.0	14.2	14.3	14.5	14.6
107.5°	114.5	104.9	95.3	85.5	75.7	65.8	55.9	46.0
110°	145.3	142.9	140.4	133.9	123.4	112.7	102.2	91.6



TEST NUMBER: P332273-830

CATALOG NUMBER: S123RDIP-S560D365U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	167.1	167.1	167.2	166.1	163.8	161.6	159.4	157.1
115°	192.7	193.4	194.2	194.6	194.9	195.3	195.6	195.9
117.5°	215.8	216.4	217.0	217.4	217.4	217.4	217.5	217.5
120°	231.0	231.6	232.1	232.5	232.5	232.5	232.5	232.5
122.5°	245.8	246.3	246.7	246.9	246.9	247.0	247.0	247.1
125°	266.7	266.9	267.0	267.2	267.3	267.5	267.7	267.8
127.5°	287.7	287.9	288.2	288.2	288.0	287.9	287.8	287.7
130°	300.4	300.7	301.0	301.0	300.9	300.8	300.6	300.4
132.5°	312.4	312.6	312.9	313.0	312.7	312.5	312.4	312.2
135°	330.5	330.7	330.9	330.9	330.7	330.5	330.3	330.1
137.5°	346.7	347.0	347.4	347.5	347.3	347.2	347.0	346.9
140°	356.9	357.2	357.6	357.6	357.5	357.3	357.2	357.0
142.5°	366.7	366.9	367.2	367.2	367.0	366.7	366.6	366.4
145°	380.3	380.5	380.6	380.7	380.7	380.7	380.7	380.7
147.5°	392.5	392.7	392.9	392.8	392.4	392.0	391.7	391.3
150°	400.0	400.1	400.3	400.2	400.0	399.8	399.5	399.4
152.5°	406.6	406.9	407.2	407.1	406.8	406.4	406.0	405.8
155°	415.8	416.1	416.5	416.4	416.0	415.6	415.1	414.6
157.5°	423.7	424.1	424.6	424.5	424.0	423.4	422.7	422.2
160°	428.2	428.7	429.1	429.0	428.6	428.0	427.5	427.0
162.5°	432.3	432.8	433.3	433.4	432.9	432.4	432.0	431.5
165°	437.8	438.5	439.0	439.0	438.6	438.0	437.5	437.0
167.5°	442.1	442.7	443.3	443.3	442.7	442.1	441.5	440.9
170°	444.5	445.1	445.6	445.6	445.1	444.5	443.9	443.3
172.5°	446.1	446.7	447.2	447.2	446.6	445.9	445.3	444.6
175°	448.0	448.6	449.0	449.0	448.5	447.8	447.2	446.7
177.5°	448.7	449.2	449.7	449.6	449.0	448.5	447.8	447.2
180°	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3

(END OF REPORT)