

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: P332275-840

Luminaire Tested: **S123RDIP-S560D365U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332275-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S560D365U840-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3482.5 lumens
Efficiency: N/A
Efficacy: 126.6 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-Direct

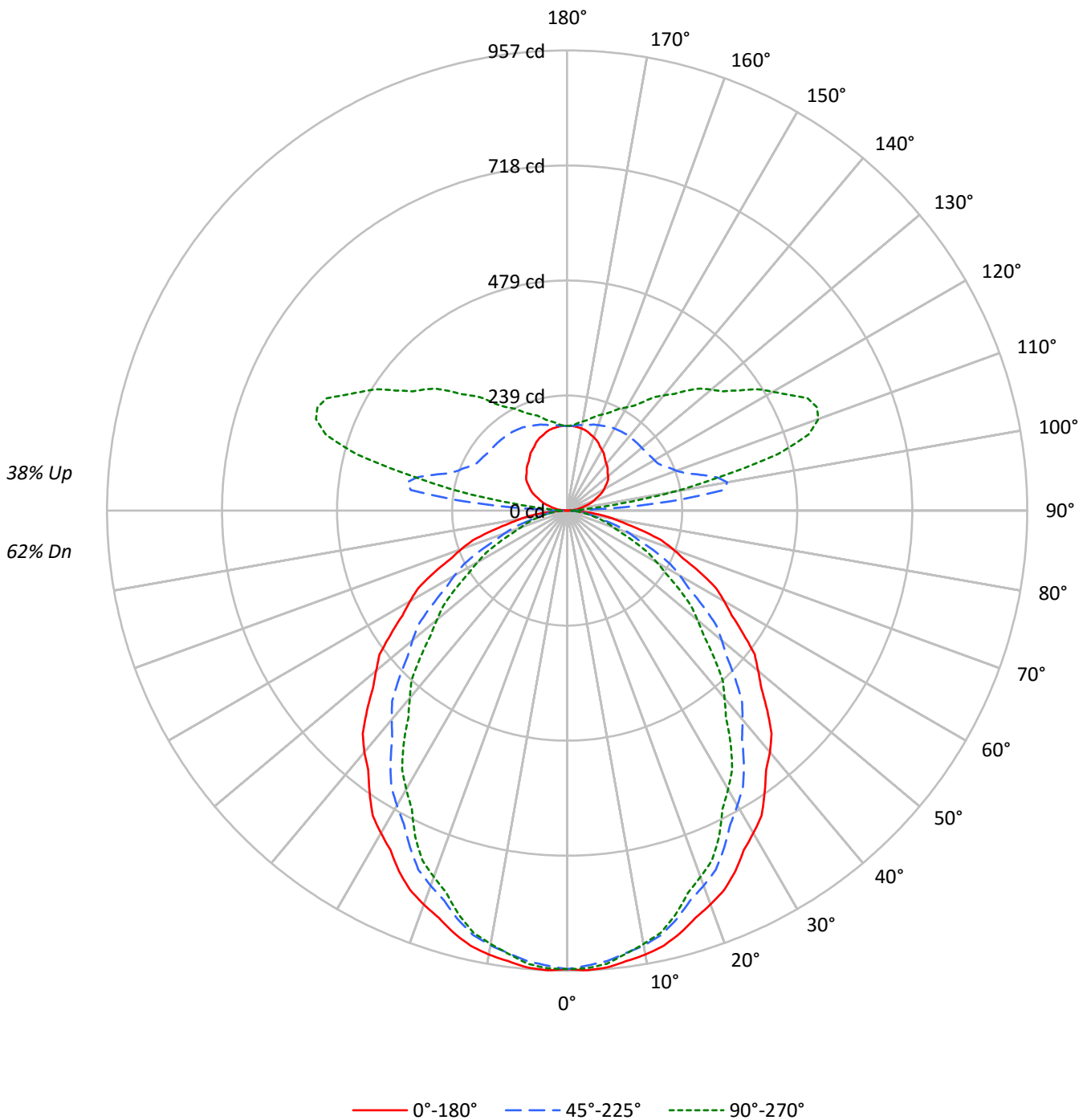
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332275-840

CATALOG NUMBER: S123RDIP-S560D365U840-4F0-1E-UDD-F4

Luminous Intensity Polar Plot





TEST NUMBER: P332275-840

CATALOG NUMBER: S123RDIP-S560D365U840-4F0-1E-UDD-F4

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67
1	101	97	93	89	94	91	87	84	80	77	75	69	68	66	60	59	57
2	92	85	79	74	86	80	74	70	70	66	63	61	58	56	53	51	49
3	84	75	68	62	79	71	64	59	62	57	53	55	51	48	48	45	42
4	77	67	59	53	72	63	56	50	56	50	46	49	45	41	43	39	37
5	71	60	51	46	67	56	49	44	50	44	40	44	39	36	39	35	32
6	66	54	46	40	61	51	43	38	45	39	35	40	35	32	35	31	29
7	61	49	41	35	57	46	39	34	41	35	31	37	32	28	32	28	25
8	57	44	37	31	53	42	35	30	38	32	28	34	29	25	30	26	23
9	53	41	33	28	50	39	32	27	35	29	25	31	26	23	27	24	21
10	49	37	30	25	46	36	29	24	32	26	23	29	24	21	26	22	19

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: P332275-840

CATALOG NUMBER: S123RDIP-S560D365U840-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.6	2.6
10°-20°	249.2	7.2
20°-30°	358.8	10.3
30°-40°	404.2	11.6
40°-50°	386.7	11.1
50°-60°	316.7	9.1
60°-70°	213.7	6.1
70°-80°	107.5	3.1
80°-90°	29.8	0.9
90°-100°	98.1	2.8
100°-110°	277.8	8.0
110°-120°	273.3	7.8
120°-130°	218.0	6.3
130°-140°	171.9	4.9
140°-150°	128.3	3.7
150°-160°	89.4	2.6
160°-170°	52.5	1.5
170°-180°	17.1	0.5
0°-30°	697.6	20.0
0°-40°	1101.8	31.6
0°-60°	1805.2	51.8
0°-90°	2156.1	61.9
90°-120°	649.2	18.6
90°-150°	1167.3	33.5
90°-180°	1326.0	38.1
0°-180°	3482.5	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	4	9	10	10	3
95°	12	39	212	62	41	13
105°	41	61	287	502	454	44
115°	73	91	219	481	552	72
125°	102	120	205	371	435	90
135°	119	142	202	306	353	92
145°	136	156	199	251	276	85
155°	154	167	193	219	229	71
165°	169	174	185	196	199	48
175°	176	176	177	180	180	17
180°	176	176	176	176	176	



TEST NUMBER: P332275-840

CATALOG NUMBER: S123RDIP-S560D365U840-4F0-1E-UDD-F4

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	13.6	12.2	10.9	9.6	9.0	9.2	9.4	9.6	9.8	9.6
90°	0.7	1.4	2.1	3.2	3.9	4.6	5.8	6.8	7.9	8.9	8.6
92.5°	4.4	6.6	9.6	12.3	15.3	20.6	30.0	45.3	60.4	54.8	41.4
95°	12.1	13.2	17.2	23.2	32.5	46.4	76.7	129.9	188.4	211.7	171.7
97.5°	20.7	21.0	24.1	29.4	38.6	53.6	82.6	142.5	240.1	328.0	350.8
100°	26.5	26.8	29.3	34.2	42.8	56.8	81.7	134.5	228.4	338.0	408.3
102.5°	32.4	33.0	35.2	40.0	47.7	60.5	82.9	127.6	211.3	319.4	411.1
105°	41.4	42.5	44.6	48.9	55.6	66.8	86.0	122.8	190.3	286.9	389.3
107.5°	51.0	52.0	54.1	58.3	64.6	74.9	91.9	122.4	176.8	258.2	351.2
110°	57.8	58.9	60.7	64.6	70.7	80.7	96.7	123.8	171.7	242.0	327.3



TEST NUMBER: P332275-840

CATALOG NUMBER: S123RDIP-S560D365U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	64.1	65.1	67.0	70.9	77.0	86.6	101.6	126.7	168.7	231.1	306.4
115°	73.1	74.6	76.7	80.3	86.3	96.0	109.6	131.3	167.7	219.4	281.2
117.5°	82.2	83.8	85.6	89.0	95.7	104.6	118.1	137.4	168.3	212.6	266.0
120°	88.5	89.6	91.4	94.9	101.7	110.6	123.5	142.0	169.6	209.4	258.0
122.5°	93.9	95.0	96.7	100.7	107.1	116.6	129.2	146.3	171.5	207.5	251.5
125°	101.7	102.4	104.5	108.5	115.2	124.9	137.4	153.1	174.5	204.8	243.1
127.5°	107.7	108.7	111.4	115.3	122.8	132.5	144.5	158.6	177.9	203.6	235.6
130°	111.4	112.4	115.6	119.9	127.4	137.0	148.9	162.4	180.3	202.7	231.6
132.5°	114.2	115.5	119.1	124.2	131.7	141.1	152.5	165.8	182.0	202.4	227.9
135°	119.2	120.6	124.5	129.9	137.4	147.0	158.0	170.3	184.5	202.0	223.1
137.5°	123.9	125.4	129.3	134.9	142.4	151.3	162.0	173.5	186.2	201.2	218.8
140°	127.0	128.9	132.4	138.1	145.2	154.2	164.5	175.2	187.3	201.0	216.2
142.5°	130.5	132.0	135.8	141.0	148.1	156.4	166.5	176.9	188.2	200.4	214.0
145°	135.9	137.0	140.3	145.6	151.7	159.9	169.2	178.7	188.7	199.4	210.9
147.5°	141.6	142.2	145.3	150.0	155.8	162.8	171.3	180.0	188.7	198.1	207.9
150°	145.2	145.6	148.5	153.1	158.0	164.5	172.7	180.3	188.7	197.0	205.9
152.5°	149.0	149.1	151.9	155.9	160.4	166.5	173.6	180.8	187.9	195.6	203.6
155°	154.5	154.5	156.6	160.3	164.2	169.2	175.2	181.0	187.0	193.1	200.2
157.5°	159.0	159.3	161.0	164.1	167.4	171.3	176.1	181.3	185.8	190.9	196.3
160°	162.4	162.4	163.8	166.6	169.2	172.7	177.0	181.3	185.2	189.1	193.8
162.5°	164.9	164.9	166.1	168.3	170.6	173.6	177.3	181.0	184.1	187.4	191.2
165°	168.7	168.4	169.2	171.0	172.4	174.9	177.7	180.3	182.4	184.9	187.7
167.5°	171.7	171.3	171.7	173.0	174.0	175.6	177.6	179.7	180.7	182.3	184.4
170°	173.4	172.7	173.1	174.1	174.9	175.6	177.3	178.7	179.6	180.6	182.4
172.5°	174.6	174.1	174.2	175.0	175.4	175.8	177.3	178.5	178.6	179.2	180.4
175°	175.9	175.6	175.2	175.9	175.9	176.3	177.0	177.7	177.3	177.3	178.0
177.5°	176.6	176.3	176.0	176.3	176.3	176.3	176.6	177.1	176.6	176.3	176.6
180°	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3



TEST NUMBER: P332275-840

CATALOG NUMBER: S123RDIP-S560D365U840-4F0-1E-UDD-F4

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°	9.6	9.5	9.4	9.4	9.2	9.2	9.1	8.9
90°	8.9	9.3	9.6	10.3	10.0	10.3	10.7	10.3
92.5°	30.1	23.8	21.0	19.2	18.6	17.5	17.9	17.2
95°	128.5	87.1	68.2	55.3	48.6	45.3	42.8	41.4
97.5°	320.2	256.5	210.5	167.8	141.5	125.4	115.7	112.7
100°	420.7	391.8	350.1	299.4	263.4	237.3	223.4	223.8
102.5°	454.1	453.2	428.9	396.8	368.7	348.1	336.5	328.2
105°	463.9	499.6	506.3	497.2	480.7	467.2	455.8	453.9
107.5°	435.8	493.7	525.0	537.8	538.1	533.4	529.6	526.3
110°	409.0	474.6	519.6	544.6	554.6	557.4	556.7	556.0



TEST NUMBER: P332275-840

CATALOG NUMBER: S123RDIP-S560D365U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	382.4	449.5	499.9	532.0	550.3	559.2	561.9	562.0
115°	347.2	409.3	461.8	500.7	527.5	543.1	550.3	552.1
117.5°	321.7	375.4	422.4	461.9	489.9	507.9	518.1	520.5
120°	308.3	356.5	399.3	435.4	463.5	483.5	492.1	494.2
122.5°	297.8	341.3	381.0	414.5	439.6	457.6	467.0	469.7
125°	283.7	322.7	356.9	385.5	408.3	423.9	432.9	435.4
127.5°	271.5	306.1	337.0	363.0	383.3	396.8	404.9	407.1
130°	263.7	295.9	324.8	349.0	367.9	380.8	388.3	391.1
132.5°	256.6	286.1	313.1	336.2	354.0	366.8	373.4	375.5
135°	246.9	272.3	295.5	315.8	333.4	344.1	350.4	352.9
137.5°	238.1	258.9	278.9	296.6	311.2	322.1	327.5	329.2
140°	233.1	251.3	268.3	283.7	297.3	307.3	313.0	312.7
142.5°	228.2	243.8	258.6	272.0	283.6	292.5	297.5	297.2
145°	222.4	234.1	245.5	255.9	264.8	272.3	275.2	275.9
147.5°	217.5	226.9	236.1	243.5	250.2	255.3	258.0	258.3
150°	214.1	222.4	229.8	236.6	242.0	245.9	248.0	248.0
152.5°	211.0	218.0	224.7	230.4	234.5	238.1	239.4	239.4
155°	206.3	212.0	217.3	221.6	224.8	227.7	228.4	228.7
157.5°	201.3	206.0	210.2	213.6	216.3	218.4	219.0	218.9
160°	198.4	202.4	205.9	208.4	210.9	213.1	213.1	212.7
162.5°	195.0	198.3	201.7	203.9	205.5	207.3	207.3	207.0
165°	190.6	192.7	195.2	197.0	198.4	199.9	199.4	199.4
167.5°	186.7	188.3	189.8	191.1	191.7	192.7	192.4	192.4
170°	184.1	185.2	186.6	187.3	187.7	188.4	188.0	188.0
172.5°	181.9	182.7	183.8	184.2	184.3	185.0	184.4	184.1
175°	178.7	179.2	179.9	179.9	179.9	180.3	179.9	179.6
177.5°	176.8	177.1	177.4	177.4	177.1	177.4	176.8	176.8
180°	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3

(END OF REPORT)