

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: P331913-927

Luminaire Tested: **S123DIP-S560D365U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331913-927
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: S123DIP-S560D365U927-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3022.1 lumens
Efficiency: N/A
Efficacy: 109.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

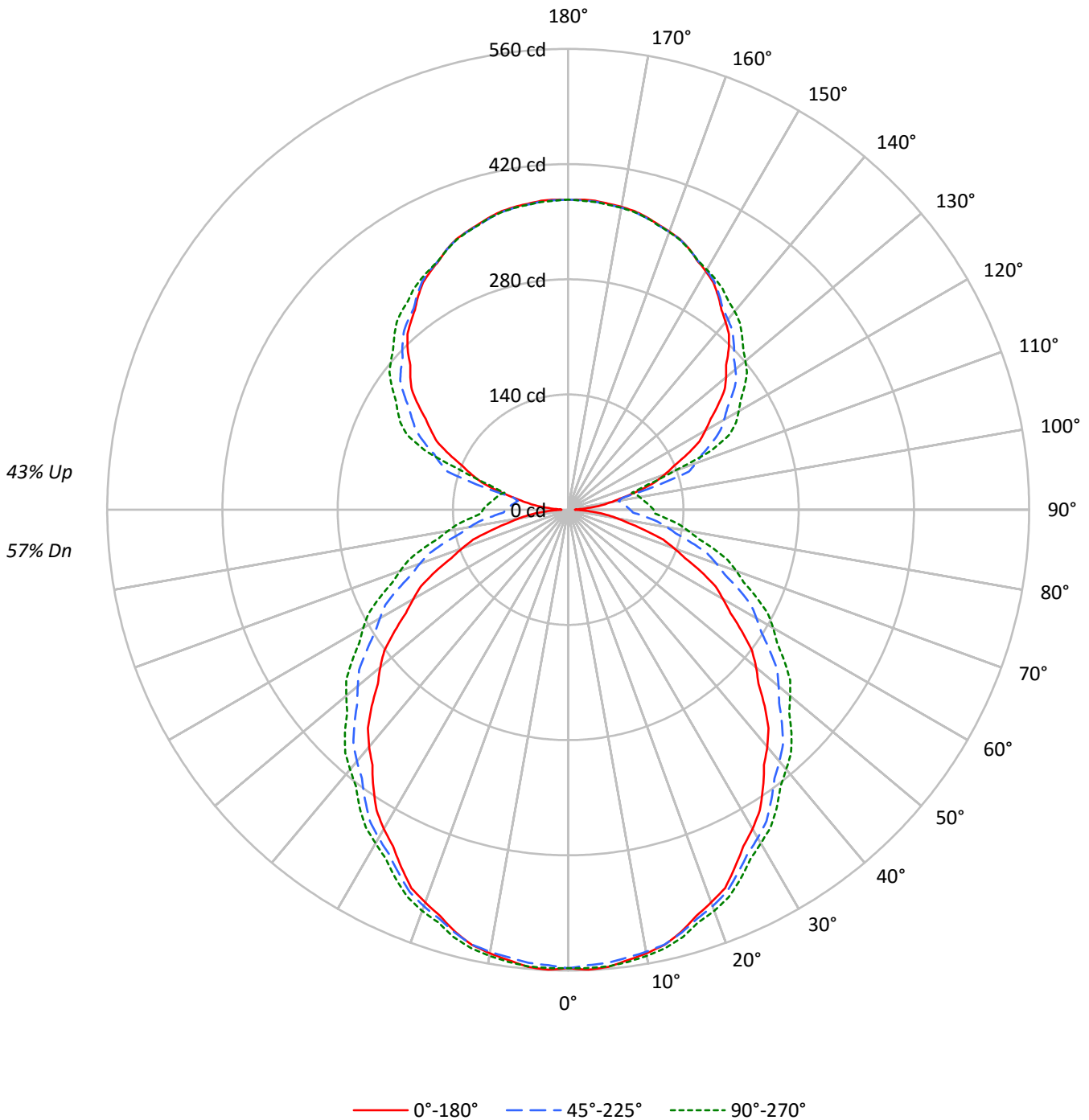
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331913-927

CATALOG NUMBER: S123DIP-S560D365U927-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P331913-927

CATALOG NUMBER: S123DIP-S560D365U927-4F0-1E-UDD-D

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	0													
RCR																																					
0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	57																			
1	98	93	89	85	91	87	83	79	75	72	69	63	61	59	53	52	50	45																			
2	89	81	74	68	82	75	69	64	65	60	56	55	52	49	46	44	41	37																			
3	81	71	63	56	75	66	59	53	57	51	47	48	44	41	41	37	35	31																			
4	74	62	54	47	68	58	51	45	50	44	40	43	38	35	36	33	30	26																			
5	68	55	47	40	62	52	44	38	45	39	34	38	34	30	32	29	26	22																			
6	62	50	41	35	58	46	39	33	40	34	30	35	30	26	29	25	22	20																			
7	58	45	36	31	53	42	34	29	36	30	26	31	27	23	27	23	20	17																			
8	53	41	33	27	49	38	31	26	33	27	23	29	24	20	24	21	18	15																			
9	50	37	29	24	46	35	28	23	30	25	21	26	22	18	23	19	16	14																			
10	46	34	27	22	43	32	25	21	28	22	18	24	20	16	21	17	14	13																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5997	5997	5997
5°	6015	5845	5849
10°	5961	5711	5682
15°	5884	5558	5501
20°	5774	5383	5300
25°	5639	5182	5090
30°	5500	5002	4877
35°	5344	4810	4707
40°	5195	4636	4524
45°	5031	4469	4378
50°	4868	4304	4219
55°	4689	4134	4074
60°	4513	3964	3925
65°	4335	3780	3750
70°	4066	3576	3568
75°	3724	3338	3386
80°	3326	3109	3176
85°	2963	2948	3053



TEST NUMBER: P331913-927

CATALOG NUMBER: S123DIP-S560D365U927-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.8	1.7
10°-20°	150.5	5.0
20°-30°	225.2	7.5
30°-40°	268.9	8.9
40°-50°	281.3	9.3
50°-60°	264.0	8.7
60°-70°	220.5	7.3
70°-80°	157.8	5.2
80°-90°	95.1	3.1
90°-100°	72.7	2.4
100°-110°	108.7	3.6
110°-120°	185.8	6.1
120°-130°	216.2	7.2
130°-140°	220.8	7.3
140°-150°	201.1	6.7
150°-160°	161.0	5.3
160°-170°	103.9	3.4
170°-180°	35.8	1.2
0°-30°	428.5	14.2
0°-40°	697.4	23.1
0°-60°	1242.7	41.1
0°-90°	1716.1	56.8
90°-120°	367.2	12.2
90°-150°	1005.4	33.3
90°-180°	1306.0	43.2
0°-180°	3022.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	557	557	557	557	557	
5°	558	556	553	557	557	53
15°	531	533	532	538	538	149
25°	479	485	487	495	495	221
35°	413	422	430	439	442	258
45°	337	352	367	378	384	260
55°	257	277	299	315	320	230
65°	178	202	228	246	252	176
75°	96	125	155	175	183	103
85°	30	60	92	112	119	31
90°	8	41	75	96	104	6
95°	24	37	69	89	96	26
105°	88	105	107	76	80	93
115°	160	169	193	210	216	158
125°	222	226	243	256	262	199
135°	276	277	285	296	299	212
145°	318	319	319	325	327	199
155°	349	349	349	350	348	161
165°	368	367	367	369	367	104
175°	377	376	376	377	375	36
180°	377	377	377	377	377	



TEST NUMBER: P331913-927

CATALOG NUMBER: S123DIP-S560D365U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1
2.5°	559.5	559.2	558.9	558.5	558.2	557.6	556.7	555.9	555.0	554.1	555.0
5°	557.7	557.4	557.1	556.9	556.6	556.0	555.2	554.4	553.7	552.8	553.9
7.5°	552.2	552.2	552.3	552.4	552.5	552.1	551.3	550.5	549.7	548.9	550.2
10°	547.4	547.6	547.9	548.2	548.4	548.3	547.6	546.9	546.2	545.6	546.9
12.5°	541.5	541.9	542.3	542.6	543.0	543.0	542.6	542.1	541.6	541.1	542.4
15°	531.0	531.4	531.8	532.2	532.6	532.7	532.6	532.4	532.3	532.2	533.5
17.5°	517.6	518.4	519.3	520.1	520.9	521.3	521.2	521.1	521.1	521.0	522.2
20°	507.9	508.7	509.5	510.3	511.1	511.7	512.0	512.2	512.5	512.8	514.0
22.5°	497.7	498.5	499.3	500.2	501.0	501.5	501.9	502.3	502.7	503.0	504.6
25°	479.4	480.8	482.1	483.5	484.8	485.7	486.1	486.5	486.9	487.3	489.0
27.5°	461.0	462.5	464.1	465.6	467.1	468.3	469.1	470.0	470.9	471.7	473.2
30°	447.8	449.6	451.3	453.1	454.9	456.3	457.3	458.4	459.5	460.6	462.2
32.5°	433.2	435.2	437.2	439.2	441.2	442.8	444.3	445.6	447.0	448.5	450.2
35°	412.6	414.8	416.9	419.1	421.3	423.3	425.0	426.7	428.5	430.2	432.3
37.5°	390.8	393.2	395.6	398.1	400.5	402.8	405.0	407.1	409.2	411.5	413.8
40°	376.2	378.7	381.1	383.5	386.0	388.5	391.2	393.9	396.6	399.3	401.6
42.5°	360.2	363.2	366.1	369.1	372.1	374.9	377.8	380.6	383.4	386.2	388.7
45°	337.4	340.6	343.9	347.1	350.3	353.6	357.0	360.4	363.8	367.1	369.7
47.5°	313.5	317.2	320.8	324.5	328.1	331.9	335.8	339.6	343.5	347.4	350.2
50°	297.9	301.7	305.5	309.3	313.1	317.0	321.2	325.4	329.5	333.7	336.8
52.5°	281.5	285.4	289.5	293.4	297.4	301.7	306.3	310.9	315.5	320.2	323.4
55°	257.3	261.7	266.2	270.6	275.1	279.7	284.6	289.5	294.3	299.1	302.8
57.5°	233.8	238.4	243.0	247.6	252.3	257.3	262.6	267.9	273.2	278.5	282.2
60°	217.2	222.1	227.0	231.8	236.6	241.9	247.4	252.9	258.4	264.0	267.8
62.5°	201.7	206.7	211.7	216.6	221.6	227.0	232.8	238.7	244.5	250.4	254.1
65°	177.8	183.1	188.3	193.6	198.8	204.5	210.4	216.3	222.2	228.1	232.2
67.5°	153.5	159.1	164.7	170.2	175.9	181.6	187.7	193.8	199.8	205.8	210.2
70°	136.6	142.4	148.1	153.9	159.7	165.9	172.3	178.8	185.3	191.8	196.1
72.5°	121.0	126.8	132.6	138.4	144.2	150.4	157.1	163.8	170.5	177.2	181.6
75°	96.5	102.8	109.2	115.5	121.8	128.4	135.1	141.9	148.6	155.3	159.8
77.5°	75.1	81.5	87.9	94.3	100.7	107.3	114.1	120.9	127.7	134.5	139.2
80°	60.0	66.7	73.3	79.9	86.5	93.3	100.3	107.3	114.4	121.4	126.0
82.5°	47.0	53.7	60.4	67.1	73.8	80.7	87.9	95.0	102.1	109.2	113.8
85°	29.7	36.4	43.3	50.0	56.7	63.6	70.8	78.0	85.1	92.2	96.8
87.5°	16.2	23.1	29.9	36.7	43.6	50.5	57.5	64.6	71.6	78.7	83.3
90°	8.2	15.4	22.7	29.9	37.1	44.5	52.2	59.9	67.6	75.3	80.1
92.5°	12.6	18.4	24.2	29.9	35.7	42.3	49.7	57.1	64.5	71.9	76.8
95°	23.8	26.5	29.2	31.8	34.6	39.6	46.9	54.2	61.5	68.8	73.4
97.5°	40.2	43.9	47.5	51.1	54.7	57.4	59.3	61.1	62.9	64.7	69.2
100°	52.8	58.3	63.8	69.5	75.0	76.0	72.6	69.0	65.5	62.0	66.5
102.5°	67.1	71.9	76.6	81.4	86.2	86.3	81.8	77.3	72.8	68.3	70.6
105°	88.2	92.2	96.1	100.1	103.9	106.0	106.2	106.4	106.6	106.8	99.6
107.5°	110.0	113.4	116.7	119.9	123.3	128.1	134.5	140.9	147.3	153.6	149.2
110°	124.6	127.5	130.4	133.3	136.3	140.8	146.9	152.9	159.0	165.1	166.5



TEST NUMBER: P331913-927

CATALOG NUMBER: S123DIP-S560D365U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	138.9	141.3	143.8	146.2	148.7	152.8	158.7	164.5	170.4	176.3	179.7
115°	159.5	161.5	163.5	165.5	167.5	171.2	176.6	182.0	187.4	192.8	196.7
117.5°	179.9	181.4	182.8	184.3	185.8	188.9	193.8	198.6	203.4	208.3	212.0
120°	192.2	193.5	194.7	195.9	197.2	200.1	204.7	209.4	214.0	218.6	222.2
122.5°	205.2	206.0	206.8	207.6	208.4	211.1	215.6	220.1	224.5	228.9	232.3
125°	222.4	222.9	223.4	223.9	224.4	226.7	230.9	235.0	239.2	243.4	246.3
127.5°	239.6	240.0	240.3	240.7	241.1	243.0	246.6	250.1	253.7	257.2	260.1
130°	250.4	250.7	251.1	251.5	251.8	253.5	256.4	259.4	262.4	265.3	268.1
132.5°	260.2	260.7	261.2	261.7	262.1	263.5	265.9	268.2	270.6	272.9	275.7
135°	275.8	276.1	276.3	276.6	276.8	277.7	279.5	281.2	283.0	284.7	287.3
137.5°	289.1	289.5	289.9	290.3	290.6	291.3	292.2	293.2	294.2	295.2	297.6
140°	297.6	298.0	298.3	298.7	299.1	299.6	300.2	300.8	301.3	302.0	304.2
142.5°	305.9	306.2	306.4	306.7	307.0	307.2	307.5	307.8	308.0	308.3	310.3
145°	317.5	317.8	318.1	318.4	318.7	318.9	319.0	319.2	319.2	319.4	320.6
147.5°	327.8	328.1	328.4	328.7	328.9	329.2	329.3	329.4	329.5	329.6	330.1
150°	334.5	334.7	334.9	335.1	335.3	335.4	335.6	335.6	335.8	335.9	336.0
152.5°	340.6	340.6	340.7	340.8	340.9	341.0	341.0	341.1	341.2	341.3	341.5
155°	349.1	349.0	348.8	348.7	348.6	348.6	348.6	348.6	348.7	348.8	349.1
157.5°	355.7	355.7	355.7	355.6	355.6	355.6	355.5	355.5	355.4	355.4	355.7
160°	359.7	359.7	359.6	359.5	359.5	359.4	359.3	359.3	359.3	359.2	359.5
162.5°	363.5	363.4	363.2	363.1	362.9	362.7	362.7	362.7	362.6	362.5	362.9
165°	368.1	367.9	367.7	367.6	367.3	367.3	367.2	367.1	367.0	367.0	367.5
167.5°	371.7	371.5	371.2	371.0	370.7	370.6	370.6	370.6	370.6	370.6	371.1
170°	373.7	373.4	373.2	373.0	372.7	372.6	372.6	372.6	372.6	372.6	373.1
172.5°	375.0	374.8	374.5	374.1	373.8	373.8	373.8	373.8	373.9	373.9	374.5
175°	376.8	376.4	376.1	375.9	375.6	375.4	375.5	375.6	375.6	375.7	376.1
177.5°	377.2	377.0	376.8	376.5	376.2	376.1	376.2	376.2	376.3	376.4	376.8
180°	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8



TEST NUMBER: P331913-927

CATALOG NUMBER: S123DIP-S560D365U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1
2.5°	555.9	556.7	557.6	558.0	557.9	557.8	557.7	557.5
5°	555.0	556.0	557.1	557.6	557.5	557.3	557.2	557.1
7.5°	551.6	552.9	554.4	554.9	554.8	554.6	554.4	554.3
10°	548.3	549.6	551.0	551.4	551.2	551.0	550.6	550.4
12.5°	543.7	544.9	546.1	546.6	546.4	546.1	545.8	545.6
15°	534.9	536.2	537.6	538.2	538.1	537.9	537.8	537.7
17.5°	523.5	524.7	525.9	526.4	526.2	526.0	525.9	525.6
20°	515.2	516.4	517.6	518.3	518.4	518.6	518.7	518.8
22.5°	506.1	507.7	509.2	509.9	509.8	509.8	509.7	509.6
25°	490.8	492.6	494.3	495.2	495.2	495.2	495.2	495.2
27.5°	474.8	476.3	477.8	478.6	478.7	478.8	479.0	479.0
30°	463.8	465.4	467.1	467.9	467.9	467.9	467.9	467.9
32.5°	451.9	453.6	455.3	456.4	456.7	457.0	457.3	457.6
35°	434.3	436.3	438.3	439.6	440.1	440.7	441.2	441.8
37.5°	416.0	418.3	420.6	422.0	422.4	422.8	423.3	423.7
40°	403.9	406.2	408.4	409.9	410.4	411.0	411.5	412.0
42.5°	391.2	393.7	396.2	397.8	398.6	399.3	400.1	400.8
45°	372.2	374.8	377.4	379.2	380.2	381.4	382.5	383.5
47.5°	353.2	356.0	358.9	360.8	361.6	362.4	363.3	364.1
50°	339.9	343.1	346.2	348.2	349.1	350.1	351.0	352.0
52.5°	326.6	329.8	333.0	335.2	336.4	337.5	338.7	339.8
55°	306.4	310.1	313.7	316.1	317.2	318.2	319.3	320.4
57.5°	285.9	289.5	293.2	295.6	296.9	298.2	299.4	300.7
60°	271.6	275.3	279.1	281.7	283.2	284.6	286.1	287.6
62.5°	257.9	261.7	265.5	268.1	269.4	270.8	272.2	273.5
65°	236.2	240.3	244.4	247.1	248.4	249.8	251.1	252.5
67.5°	214.7	219.1	223.6	226.3	227.4	228.5	229.7	230.8
70°	200.4	204.7	209.1	211.8	213.2	214.5	215.9	217.2
72.5°	186.0	190.4	194.9	197.8	199.2	200.5	201.8	203.2
75°	164.2	168.7	173.2	176.2	177.8	179.4	181.0	182.7
77.5°	143.9	148.5	153.2	156.2	157.5	158.7	159.9	161.2
80°	130.6	135.1	139.7	142.7	144.0	145.4	146.7	148.1
82.5°	118.4	122.9	127.5	130.6	131.9	133.2	134.6	135.9
85°	101.4	106.0	110.6	113.5	114.9	116.2	117.6	118.9
87.5°	87.9	92.5	97.2	100.2	101.6	102.9	104.3	105.7
90°	84.9	89.8	94.6	97.8	99.3	100.7	102.2	103.7
92.5°	81.6	86.5	91.3	94.4	95.8	97.0	98.4	99.7
95°	78.0	82.6	87.2	90.2	91.6	92.9	94.3	95.6
97.5°	73.8	78.3	82.8	85.7	87.1	88.6	90.0	91.4
100°	70.8	75.3	79.7	82.5	84.0	85.4	86.8	88.2
102.5°	72.8	75.1	77.3	79.2	80.6	82.1	83.6	85.1
105°	92.4	85.1	77.9	74.9	76.3	77.6	79.0	80.2
107.5°	144.7	140.2	135.8	130.0	122.9	115.8	108.7	101.6
110°	168.0	169.4	170.9	167.7	159.9	152.1	144.3	136.4



TEST NUMBER: P331913-927

CATALOG NUMBER: S123DIP-S560D365U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	183.2	186.6	190.0	191.4	190.7	190.0	189.3	188.6
115°	200.6	204.4	208.3	210.9	212.2	213.5	214.8	216.2
117.5°	215.7	219.4	223.2	225.5	226.6	227.8	228.9	230.0
120°	225.9	229.4	233.1	235.3	236.2	237.2	238.1	239.1
122.5°	235.7	239.0	242.3	244.5	245.5	246.5	247.5	248.5
125°	249.3	252.2	255.2	257.2	258.3	259.4	260.4	261.5
127.5°	262.9	265.8	268.6	270.5	271.3	272.1	272.9	273.7
130°	270.9	273.7	276.6	278.3	278.9	279.6	280.4	281.0
132.5°	278.4	281.1	283.8	285.5	286.2	286.9	287.7	288.4
135°	289.9	292.6	295.2	296.7	297.2	297.7	298.2	298.7
137.5°	300.0	302.5	304.9	306.3	306.9	307.4	308.0	308.6
140°	306.5	308.8	311.0	312.4	313.0	313.5	314.1	314.7
142.5°	312.3	314.3	316.3	317.6	318.1	318.6	319.1	319.6
145°	321.8	323.1	324.2	325.1	325.7	326.1	326.7	327.3
147.5°	330.6	331.0	331.4	331.8	332.0	332.2	332.4	332.6
150°	336.2	336.3	336.4	336.5	336.6	336.7	336.8	336.8
152.5°	341.7	342.0	342.2	342.2	342.0	341.7	341.5	341.3
155°	349.4	349.7	350.1	350.0	349.7	349.3	348.9	348.5
157.5°	356.1	356.5	356.9	356.8	356.3	355.8	355.3	354.8
160°	359.9	360.3	360.7	360.6	360.2	359.7	359.3	358.9
162.5°	363.4	363.8	364.2	364.2	363.8	363.5	363.1	362.7
165°	368.0	368.5	369.0	369.0	368.6	368.1	367.7	367.3
167.5°	371.5	372.1	372.6	372.6	372.1	371.5	371.1	370.6
170°	373.6	374.1	374.5	374.5	374.1	373.6	373.1	372.6
172.5°	374.9	375.4	375.9	375.9	375.3	374.8	374.2	373.7
175°	376.5	377.0	377.4	377.4	376.9	376.4	375.9	375.4
177.5°	377.2	377.6	378.0	377.9	377.4	376.9	376.4	375.9
180°	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8

(END OF REPORT)