

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: P331913-935

Luminaire Tested: **S123DIP-S560D365U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331913-935  
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-S560D365U935-4F0-1E-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: 3284.6 lumens  
Efficiency: N/A  
Efficacy: 119.4 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

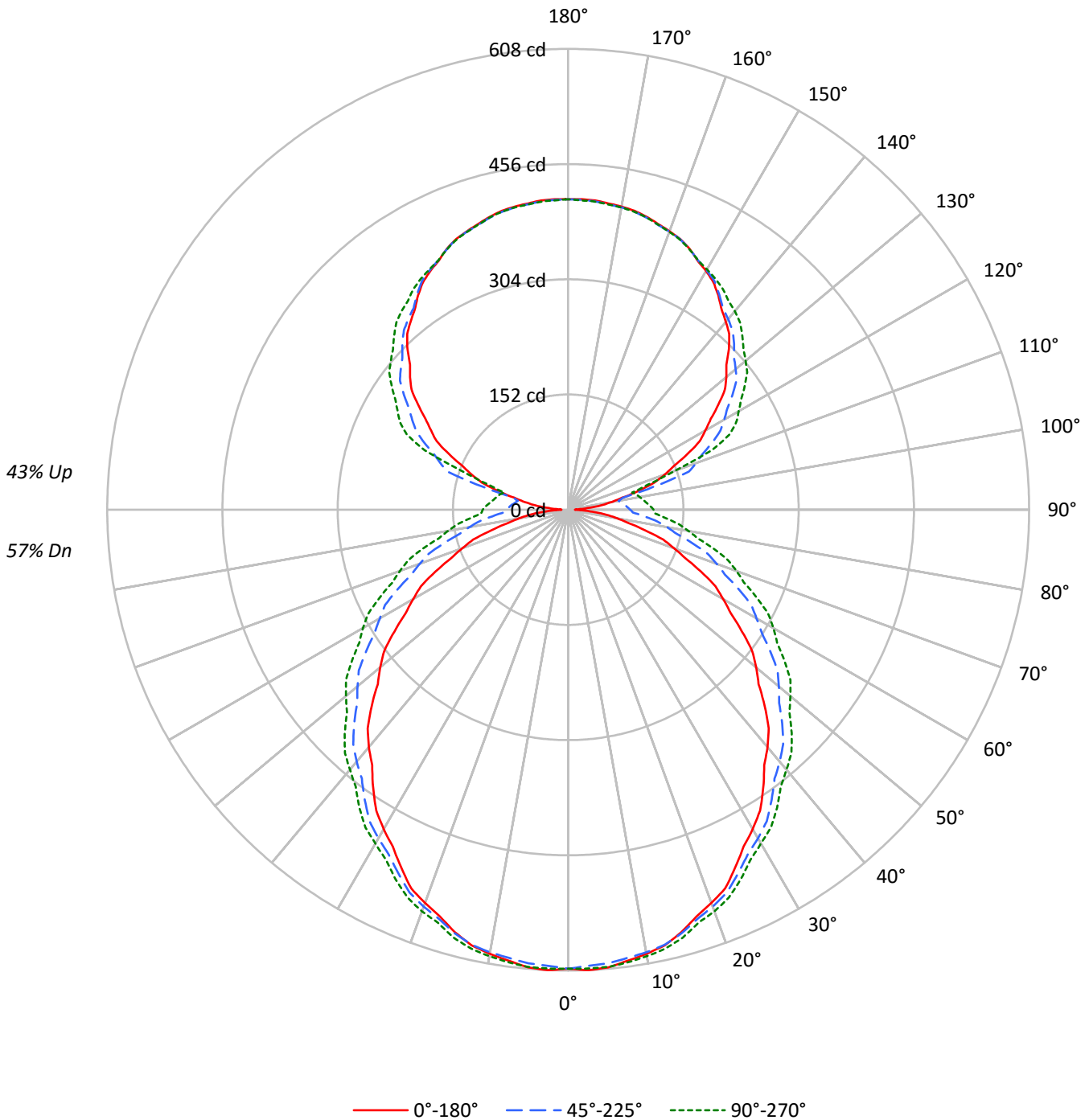
Input Watts (W): 27.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331913-935

CATALOG NUMBER: S123DIP-S560D365U935-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P331913-935

CATALOG NUMBER: S123DIP-S560D365U935-4F0-1E-UDD-D

**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	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°	6518	6518	6518
5°	6537	6352	6357
10°	6480	6207	6175
15°	6395	6040	5978
20°	6277	5850	5760
25°	6129	5632	5532
30°	5977	5436	5300
35°	5809	5228	5116
40°	5647	5038	4917
45°	5468	4857	4759
50°	5291	4678	4584
55°	5097	4494	4428
60°	4906	4308	4266
65°	4710	4109	4076
70°	4418	3885	3878
75°	4048	3629	3679
80°	3620	3378	3451
85°	3222	3204	3317



TEST NUMBER: P331913-935

CATALOG NUMBER: S123DIP-S560D365U935-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.4	1.7
10°-20°	163.6	5.0
20°-30°	244.7	7.5
30°-40°	292.2	8.9
40°-50°	305.8	9.3
50°-60°	286.9	8.7
60°-70°	239.6	7.3
70°-80°	171.5	5.2
80°-90°	103.4	3.1
90°-100°	79.0	2.4
100°-110°	118.1	3.6
110°-120°	201.9	6.1
120°-130°	235.0	7.2
130°-140°	240.0	7.3
140°-150°	218.6	6.7
150°-160°	174.9	5.3
160°-170°	112.9	3.4
170°-180°	38.9	1.2
0°-30°	465.7	14.2
0°-40°	758.0	23.1
0°-60°	1350.7	41.1
0°-90°	1865.2	56.8
90°-120°	399.1	12.1
90°-150°	1092.7	33.3
90°-180°	1419.0	43.2
0°-180°	3284.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	606	606	606	606	606	
5°	606	605	601	606	606	57
15°	577	579	578	585	584	162
25°	521	527	530	538	538	240
35°	448	459	468	477	480	280
45°	367	383	399	411	417	283
55°	280	302	325	342	348	250
65°	193	219	248	267	274	191
75°	105	136	169	190	198	112
85°	32	65	100	122	129	34
90°	9	44	82	104	113	7
95°	26	40	75	96	104	29
105°	96	114	116	83	87	101
115°	173	184	210	228	235	171
125°	242	245	264	278	284	216
135°	300	301	309	322	325	231
145°	345	346	347	353	356	216
155°	379	379	379	380	379	175
165°	400	399	399	401	399	113
175°	410	408	408	410	408	39
180°	410	410	410	410	410	



TEST NUMBER: P331913-935

CATALOG NUMBER: S123DIP-S560D365U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	608.1	607.8	607.4	607.0	606.7	606.1	605.1	604.2	603.2	602.3	603.2
5°	606.1	605.8	605.5	605.3	604.9	604.3	603.5	602.6	601.8	600.8	602.0
7.5°	600.2	600.2	600.3	600.4	600.5	600.0	599.2	598.3	597.4	596.6	598.1
10°	595.0	595.2	595.5	595.8	596.1	595.9	595.1	594.4	593.7	593.0	594.4
12.5°	588.6	589.0	589.4	589.8	590.2	590.2	589.7	589.2	588.7	588.1	589.5
15°	577.1	577.6	578.0	578.4	578.9	579.0	578.9	578.7	578.6	578.4	579.9
17.5°	562.6	563.4	564.4	565.2	566.1	566.5	566.5	566.4	566.4	566.3	567.6
20°	552.1	552.9	553.8	554.7	555.5	556.1	556.5	556.7	557.0	557.3	558.6
22.5°	541.0	541.8	542.7	543.6	544.5	545.1	545.5	546.0	546.4	546.7	548.5
25°	521.1	522.5	524.0	525.5	526.9	527.9	528.3	528.7	529.2	529.6	531.5
27.5°	501.0	502.7	504.4	506.0	507.6	508.9	509.9	510.8	511.8	512.7	514.4
30°	486.7	488.6	490.5	492.5	494.4	495.9	497.1	498.3	499.4	500.6	502.4
32.5°	470.9	473.0	475.2	477.3	479.5	481.3	482.8	484.3	485.9	487.4	489.3
35°	448.5	450.8	453.1	455.6	457.9	460.0	461.9	463.8	465.7	467.6	469.8
37.5°	424.7	427.4	430.0	432.7	435.3	437.8	440.1	442.5	444.8	447.2	449.7
40°	408.9	411.6	414.2	416.8	419.5	422.2	425.2	428.1	431.0	433.9	436.4
42.5°	391.5	394.8	398.0	401.1	404.4	407.5	410.6	413.6	416.7	419.7	422.5
45°	366.7	370.2	373.8	377.3	380.7	384.4	388.1	391.7	395.4	399.0	401.8
47.5°	340.7	344.7	348.7	352.7	356.6	360.8	365.0	369.1	373.3	377.5	380.6
50°	323.8	328.0	332.0	336.1	340.3	344.6	349.1	353.7	358.2	362.7	366.1
52.5°	305.9	310.2	314.6	318.9	323.2	328.0	332.9	337.9	342.9	348.0	351.5
55°	279.7	284.5	289.3	294.1	299.0	304.0	309.4	314.6	319.9	325.1	329.1
57.5°	254.1	259.1	264.2	269.1	274.2	279.7	285.4	291.2	297.0	302.7	306.7
60°	236.1	241.4	246.7	251.9	257.2	262.9	268.9	274.9	280.9	286.9	291.0
62.5°	219.2	224.6	230.1	235.4	240.8	246.7	253.0	259.4	265.8	272.2	276.2
65°	193.2	199.0	204.7	210.4	216.1	222.2	228.7	235.1	241.5	248.0	252.4
67.5°	166.9	173.0	179.0	185.0	191.1	197.4	204.1	210.6	217.1	223.7	228.5
70°	148.4	154.7	161.0	167.3	173.6	180.3	187.3	194.3	201.4	208.4	213.1
72.5°	131.5	137.8	144.1	150.4	156.7	163.5	170.7	178.1	185.3	192.6	197.4
75°	104.9	111.8	118.6	125.5	132.4	139.6	146.9	154.2	161.5	168.8	173.7
77.5°	81.6	88.6	95.6	102.5	109.4	116.6	124.0	131.4	138.8	146.2	151.3
80°	65.3	72.5	79.6	86.9	94.0	101.4	109.0	116.7	124.3	131.9	136.9
82.5°	51.1	58.4	65.6	72.9	80.2	87.7	95.5	103.2	111.0	118.7	123.7
85°	32.3	39.6	47.0	54.3	61.6	69.1	77.0	84.7	92.5	100.2	105.2
87.5°	17.6	25.1	32.5	39.9	47.4	54.8	62.5	70.2	77.8	85.5	90.5
90°	8.9	16.7	24.6	32.5	40.3	48.4	56.7	65.1	73.4	81.8	87.0
92.5°	13.7	20.0	26.3	32.5	38.8	46.0	54.1	62.1	70.1	78.1	83.4
95°	25.8	28.8	31.7	34.6	37.6	43.0	51.0	58.9	66.8	74.7	79.7
97.5°	43.7	47.7	51.6	55.5	59.4	62.3	64.4	66.4	68.4	70.3	75.3
100°	57.3	63.4	69.4	75.5	81.5	82.7	78.9	75.0	71.2	67.4	72.2
102.5°	72.9	78.1	83.3	88.5	93.7	93.8	88.9	84.0	79.1	74.2	76.7
105°	95.9	100.2	104.4	108.7	113.0	115.2	115.5	115.6	115.9	116.1	108.2
107.5°	119.6	123.2	126.8	130.4	134.0	139.2	146.2	153.1	160.1	166.9	162.1
110°	135.4	138.5	141.7	144.9	148.1	153.0	159.6	166.2	172.8	179.4	181.0



TEST NUMBER: P331913-935

CATALOG NUMBER: S123DIP-S560D365U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	150.9	153.6	156.3	158.9	161.6	166.1	172.5	178.8	185.2	191.6	195.4
115°	173.4	175.6	177.7	179.9	182.0	186.1	191.9	197.9	203.7	209.6	213.8
117.5°	195.5	197.2	198.7	200.4	201.9	205.3	210.6	215.9	221.1	226.4	230.4
120°	208.9	210.3	211.6	212.9	214.3	217.5	222.5	227.6	232.6	237.6	241.5
122.5°	223.0	223.9	224.8	225.7	226.5	229.5	234.3	239.2	244.0	248.8	252.5
125°	241.8	242.3	242.8	243.3	243.9	246.4	251.0	255.5	260.0	264.5	267.7
127.5°	260.5	260.9	261.2	261.7	262.1	264.2	268.0	271.8	275.7	279.6	282.7
130°	272.2	272.5	272.9	273.4	273.7	275.5	278.7	281.9	285.2	288.3	291.4
132.5°	282.8	283.4	283.9	284.4	284.9	286.4	289.0	291.5	294.1	296.6	299.6
135°	299.8	300.1	300.3	300.6	300.8	301.9	303.8	305.7	307.5	309.4	312.3
137.5°	314.3	314.7	315.0	315.5	315.8	316.6	317.6	318.7	319.8	320.8	323.5
140°	323.5	323.9	324.3	324.7	325.1	325.6	326.2	326.9	327.5	328.2	330.6
142.5°	332.5	332.8	333.0	333.4	333.6	333.9	334.2	334.5	334.8	335.1	337.3
145°	345.1	345.4	345.7	346.0	346.4	346.6	346.7	346.9	347.0	347.2	348.4
147.5°	356.3	356.6	356.9	357.2	357.5	357.7	357.9	358.0	358.2	358.3	358.8
150°	363.6	363.8	363.9	364.2	364.4	364.5	364.7	364.8	365.0	365.1	365.2
152.5°	370.1	370.2	370.3	370.4	370.5	370.7	370.7	370.7	370.8	370.9	371.2
155°	379.4	379.3	379.1	379.0	378.8	378.8	378.9	378.9	379.0	379.1	379.4
157.5°	386.6	386.6	386.6	386.5	386.5	386.5	386.4	386.3	386.2	386.2	386.6
160°	391.0	390.9	390.8	390.7	390.7	390.6	390.5	390.5	390.5	390.4	390.7
162.5°	395.1	394.9	394.8	394.6	394.4	394.3	394.2	394.2	394.1	394.0	394.4
165°	400.1	399.8	399.7	399.5	399.2	399.2	399.1	399.0	398.9	398.9	399.4
167.5°	404.0	403.7	403.5	403.2	402.9	402.8	402.8	402.8	402.8	402.8	403.3
170°	406.1	405.9	405.6	405.4	405.1	404.9	404.9	404.9	404.9	404.9	405.5
172.5°	407.6	407.3	407.0	406.7	406.3	406.2	406.2	406.3	406.4	406.4	407.0
175°	409.5	409.1	408.8	408.5	408.2	408.0	408.1	408.2	408.2	408.3	408.8
177.5°	410.0	409.7	409.5	409.2	408.9	408.8	408.9	408.9	409.0	409.1	409.5
180°	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5



TEST NUMBER: P331913-935

CATALOG NUMBER: S123DIP-S560D365U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	604.2	605.1	606.1	606.5	606.3	606.2	606.1	606.0
5°	603.2	604.3	605.5	606.1	605.9	605.7	605.6	605.5
7.5°	599.5	601.0	602.5	603.1	603.0	602.8	602.6	602.4
10°	595.9	597.4	598.8	599.3	599.1	598.8	598.5	598.2
12.5°	590.9	592.2	593.6	594.1	593.8	593.5	593.2	593.0
15°	581.3	582.8	584.3	585.0	584.8	584.6	584.5	584.4
17.5°	568.9	570.2	571.5	572.1	571.9	571.7	571.5	571.3
20°	560.0	561.3	562.6	563.4	563.4	563.6	563.8	563.9
22.5°	550.1	551.8	553.5	554.2	554.1	554.1	554.0	553.9
25°	533.4	535.4	537.3	538.2	538.2	538.2	538.2	538.2
27.5°	516.0	517.6	519.3	520.2	520.3	520.4	520.6	520.6
30°	504.1	505.8	507.6	508.5	508.5	508.5	508.5	508.5
32.5°	491.1	493.0	494.9	496.0	496.4	496.7	497.1	497.4
35°	472.0	474.2	476.4	477.8	478.4	479.0	479.6	480.2
37.5°	452.1	454.6	457.1	458.7	459.1	459.5	460.0	460.5
40°	438.9	441.4	443.9	445.5	446.1	446.7	447.2	447.8
42.5°	425.2	427.9	430.7	432.4	433.3	434.0	434.9	435.7
45°	404.6	407.3	410.2	412.2	413.3	414.5	415.7	416.8
47.5°	383.8	386.9	390.0	392.1	393.0	393.9	394.9	395.7
50°	369.5	372.9	376.3	378.4	379.4	380.5	381.5	382.5
52.5°	355.0	358.4	362.0	364.3	365.6	366.8	368.1	369.4
55°	333.0	337.0	341.0	343.5	344.7	345.9	347.1	348.3
57.5°	310.7	314.7	318.7	321.3	322.7	324.1	325.5	326.8
60°	295.2	299.2	303.3	306.2	307.8	309.4	311.0	312.6
62.5°	280.3	284.5	288.5	291.4	292.8	294.3	295.8	297.3
65°	256.8	261.1	265.6	268.5	270.0	271.5	272.9	274.4
67.5°	233.3	238.2	243.0	246.0	247.2	248.4	249.7	250.9
70°	217.8	222.5	227.2	230.2	231.7	233.2	234.6	236.1
72.5°	202.2	207.0	211.8	215.0	216.5	217.9	219.4	220.8
75°	178.5	183.4	188.2	191.5	193.2	195.0	196.7	198.5
77.5°	156.4	161.4	166.5	169.8	171.2	172.5	173.8	175.2
80°	141.9	146.9	151.9	155.1	156.5	158.0	159.5	160.9
82.5°	128.7	133.6	138.6	141.9	143.4	144.8	146.3	147.7
85°	110.2	115.2	120.2	123.4	124.8	126.3	127.8	129.2
87.5°	95.6	100.6	105.6	108.9	110.4	111.8	113.4	114.9
90°	92.3	97.6	102.8	106.2	107.9	109.4	111.1	112.7
92.5°	88.7	94.0	99.3	102.6	104.1	105.5	106.9	108.4
95°	84.7	89.8	94.8	98.1	99.5	101.0	102.5	103.9
97.5°	80.2	85.1	90.0	93.2	94.7	96.3	97.8	99.4
100°	77.0	81.8	86.6	89.7	91.3	92.8	94.4	95.9
102.5°	79.1	81.6	84.0	86.1	87.6	89.3	90.8	92.5
105°	100.4	92.5	84.6	81.5	82.9	84.4	85.8	87.2
107.5°	157.3	152.4	147.6	141.3	133.5	125.9	118.1	110.4
110°	182.6	184.2	185.7	182.3	173.7	165.3	156.8	148.3





TEST NUMBER: P331913-935

CATALOG NUMBER: S123DIP-S560D365U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	199.1	202.8	206.6	208.0	207.2	206.6	205.8	205.0
115°	218.0	222.1	226.4	229.2	230.7	232.0	233.5	235.0
117.5°	234.5	238.5	242.5	245.1	246.3	247.5	248.7	249.9
120°	245.5	249.3	253.3	255.7	256.8	257.8	258.8	259.8
122.5°	256.1	259.8	263.4	265.8	266.8	267.9	269.0	270.1
125°	271.0	274.1	277.3	279.6	280.7	281.9	283.0	284.2
127.5°	285.8	288.9	292.0	294.0	294.9	295.8	296.6	297.5
130°	294.5	297.5	300.6	302.5	303.2	303.9	304.7	305.4
132.5°	302.6	305.5	308.4	310.3	311.1	311.9	312.7	313.5
135°	315.1	318.0	320.8	322.4	323.0	323.6	324.1	324.6
137.5°	326.1	328.7	331.4	332.9	333.6	334.2	334.8	335.4
140°	333.1	335.6	338.0	339.6	340.2	340.8	341.4	342.0
142.5°	339.4	341.6	343.8	345.2	345.7	346.3	346.8	347.3
145°	349.7	351.1	352.4	353.4	354.0	354.5	355.1	355.7
147.5°	359.3	359.7	360.2	360.6	360.8	361.0	361.3	361.4
150°	365.4	365.5	365.7	365.8	365.8	365.9	366.0	366.1
152.5°	371.4	371.7	372.0	372.0	371.7	371.4	371.2	370.9
155°	379.8	380.1	380.5	380.4	380.0	379.6	379.2	378.8
157.5°	387.0	387.4	387.9	387.8	387.3	386.8	386.2	385.6
160°	391.2	391.6	392.0	391.9	391.5	391.0	390.5	390.0
162.5°	394.9	395.4	395.8	395.9	395.5	395.0	394.6	394.2
165°	399.9	400.5	401.1	401.1	400.6	400.1	399.7	399.2
167.5°	403.8	404.4	404.9	404.9	404.4	403.8	403.3	402.8
170°	406.0	406.6	407.1	407.1	406.6	406.0	405.5	404.9
172.5°	407.5	408.0	408.5	408.5	407.9	407.3	406.7	406.1
175°	409.2	409.7	410.2	410.2	409.7	409.1	408.5	408.0
177.5°	409.9	410.4	410.8	410.7	410.2	409.7	409.1	408.5
180°	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5

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