

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: P331922-940

Luminaire Tested: **S123DIP-S560D585U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331922-940  
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-S560D585U940-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 585 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4196.7 lumens  
Efficiency: N/A  
Efficacy: 127.9 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

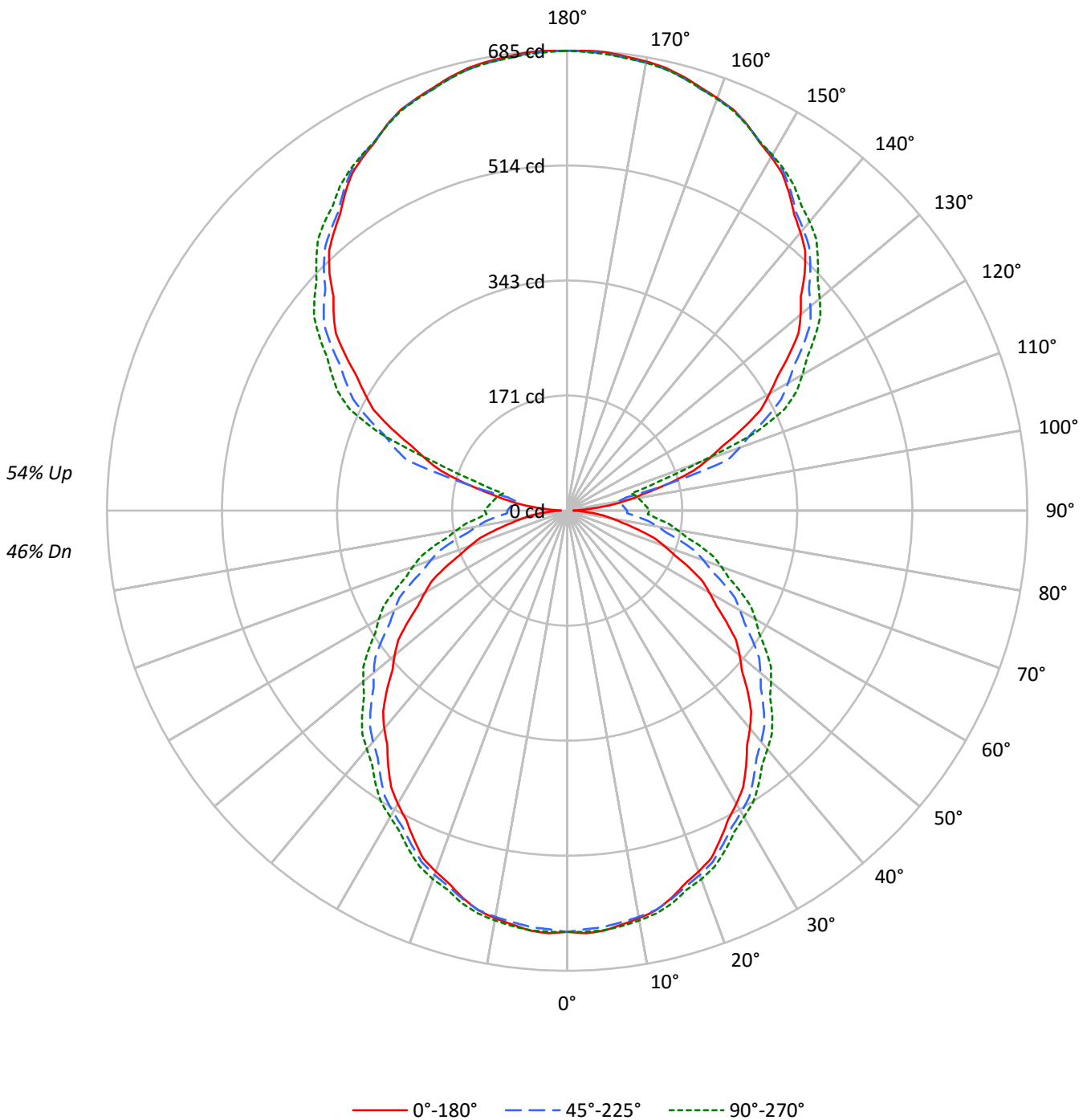
Input Watts (W): 32.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331922-940

CATALOG NUMBER: S123DIP-S560D585U940-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





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**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	50	30	10	0	
RCR																						
0	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	46				
1	96	91	87	83	88	84	80	77	70	67	65	57	55	53	45	44	42	37				
2	87	79	73	67	79	73	67	62	60	56	53	49	46	44	39	37	35	30				
3	79	69	62	55	72	64	57	51	53	48	44	43	40	36	34	32	29	25				
4	72	61	53	47	66	56	49	43	47	41	37	38	34	31	30	27	25	21				
5	66	54	46	40	60	50	43	37	42	36	32	34	30	27	27	24	22	18				
6	61	48	40	34	55	45	37	32	38	32	28	31	27	23	25	21	19	16				
7	56	44	36	30	51	40	33	28	34	28	24	28	24	20	22	19	17	14				
8	52	40	32	26	48	37	30	25	31	25	21	26	21	18	21	17	15	12				
9	48	36	28	23	44	33	27	22	28	23	19	24	19	16	19	16	13	11				
10	45	33	26	21	41	31	24	20	26	21	17	22	18	15	18	14	12	10				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	6750	6750	6750
5°	6771	6579	6584
10°	6710	6428	6396
15°	6624	6256	6191
20°	6501	6059	5966
25°	6348	5833	5729
30°	6191	5629	5489
35°	6016	5414	5298
40°	5848	5218	5093
45°	5664	5030	4929
50°	5480	4845	4748
55°	5278	4654	4586
60°	5080	4461	4419
65°	4879	4255	4221
70°	4575	4025	4016
75°	4191	3760	3810
80°	3748	3499	3575
85°	3332	3319	3435



TEST NUMBER: P331922-940

CATALOG NUMBER: S123DIP-S560D585U940-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	59.4	1.4
10°-20°	169.5	4.0
20°-30°	253.4	6.0
30°-40°	302.7	7.2
40°-50°	316.7	7.5
50°-60°	297.2	7.1
60°-70°	248.2	5.9
70°-80°	177.6	4.2
80°-90°	107.8	2.6
90°-100°	91.3	2.2
100°-110°	167.4	4.0
110°-120°	317.5	7.6
120°-130°	381.5	9.1
130°-140°	396.0	9.4
140°-150°	364.3	8.7
150°-160°	292.4	7.0
160°-170°	188.7	4.5
170°-180°	65.0	1.5
0°-30°	482.3	11.5
0°-40°	785.0	18.7
0°-60°	1398.8	33.3
0°-90°	1932.4	46.0
90°-120°	576.3	13.7
90°-150°	1718.1	40.9
90°-180°	2264.0	53.9
0°-180°	4196.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	627	627	627	627	627	
5°	628	626	622	627	627	59
15°	598	600	599	605	605	168
25°	540	546	548	557	557	249
35°	464	475	484	494	497	290
45°	380	396	413	426	432	293
55°	290	312	337	354	361	259
65°	200	227	257	277	284	198
75°	109	141	175	197	206	116
85°	33	68	104	126	134	35
90°	9	48	89	114	122	8
95°	38	46	83	107	115	44
105°	157	177	163	96	99	166
115°	288	300	328	349	357	284
125°	403	408	429	444	450	360
135°	500	503	512	525	528	385
145°	576	579	580	587	590	361
155°	634	633	634	636	633	292
165°	669	667	667	670	667	189
175°	685	682	682	686	682	65
180°	685	685	685	685	685	



TEST NUMBER: P331922-940

CATALOG NUMBER: S123DIP-S560D585U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1
2.5°	629.8	629.5	629.1	628.7	628.3	627.7	626.7	625.7	624.7	623.8	624.7
5°	627.8	627.4	627.1	626.9	626.5	625.9	625.0	624.1	623.2	622.2	623.5
7.5°	621.6	621.6	621.7	621.8	621.9	621.4	620.5	619.6	618.8	617.9	619.4
10°	616.2	616.4	616.7	617.1	617.3	617.2	616.4	615.6	614.8	614.1	615.6
12.5°	609.6	610.0	610.5	610.8	611.3	611.3	610.7	610.2	609.7	609.1	610.6
15°	597.7	598.2	598.6	599.1	599.5	599.7	599.5	599.3	599.2	599.1	600.6
17.5°	582.6	583.5	584.5	585.4	586.3	586.7	586.7	586.6	586.6	586.5	587.8
20°	571.8	572.7	573.5	574.4	575.3	576.0	576.3	576.6	576.8	577.2	578.5
22.5°	560.3	561.2	562.0	563.0	563.9	564.5	565.0	565.4	565.9	566.2	568.0
25°	539.7	541.2	542.7	544.2	545.7	546.7	547.2	547.6	548.0	548.5	550.5
27.5°	518.9	520.6	522.4	524.1	525.8	527.1	528.1	529.1	530.0	531.0	532.7
30°	504.1	506.0	508.0	510.1	512.0	513.6	514.8	516.0	517.2	518.4	520.3
32.5°	487.7	489.9	492.1	494.4	496.6	498.5	500.1	501.6	503.2	504.8	506.8
35°	464.5	466.9	469.3	471.8	474.2	476.4	478.4	480.4	482.3	484.3	486.6
37.5°	439.9	442.6	445.3	448.1	450.8	453.4	455.8	458.3	460.7	463.2	465.7
40°	423.5	426.2	429.0	431.7	434.4	437.3	440.3	443.4	446.4	449.4	452.0
42.5°	405.5	408.8	412.1	415.4	418.8	422.0	425.3	428.4	431.6	434.7	437.6
45°	379.8	383.4	387.1	390.7	394.3	398.1	401.9	405.6	409.5	413.2	416.2
47.5°	352.8	357.0	361.1	365.2	369.3	373.6	378.0	382.3	386.6	391.0	394.2
50°	335.4	339.7	343.8	348.1	352.4	356.9	361.6	366.3	371.0	375.7	379.2
52.5°	316.8	321.3	325.8	330.3	334.7	339.7	344.8	350.0	355.2	360.4	364.0
55°	289.6	294.6	299.6	304.6	309.7	314.9	320.4	325.8	331.3	336.7	340.8
57.5°	263.1	268.3	273.6	278.7	284.0	289.6	295.6	301.6	307.6	313.5	317.6
60°	244.5	250.0	255.5	260.9	266.4	272.2	278.5	284.7	290.9	297.1	301.4
62.5°	227.0	232.6	238.3	243.8	249.4	255.5	262.1	268.7	275.3	281.9	286.1
65°	200.1	206.1	212.0	217.9	223.8	230.2	236.8	243.4	250.1	256.8	261.4
67.5°	172.8	179.1	185.4	191.6	198.0	204.5	211.3	218.1	224.9	231.7	236.7
70°	153.7	160.2	166.7	173.3	179.8	186.7	193.9	201.3	208.6	215.9	220.7
72.5°	136.2	142.8	149.3	155.8	162.3	169.3	176.8	184.4	191.9	199.5	204.5
75°	108.6	115.7	122.9	130.0	137.1	144.5	152.1	159.7	167.3	174.9	179.9
77.5°	84.5	91.8	99.0	106.1	113.3	120.7	128.4	136.1	143.7	151.4	156.7
80°	67.6	75.1	82.5	90.0	97.4	105.0	112.9	120.8	128.8	136.6	141.8
82.5°	52.9	60.5	67.9	75.5	83.1	90.9	98.9	106.9	114.9	123.0	128.1
85°	33.4	41.0	48.7	56.3	63.8	71.6	79.7	87.7	95.8	103.8	109.0
87.5°	18.3	26.0	33.9	41.6	49.4	57.3	65.4	73.4	81.4	89.4	94.7
90°	9.4	17.9	26.5	35.1	43.7	52.5	61.8	71.0	80.2	89.3	95.0
92.5°	17.8	24.2	30.6	37.0	43.3	50.9	59.7	68.4	77.1	85.9	91.6
95°	38.5	39.9	41.1	42.4	43.7	48.7	57.3	66.0	74.7	83.4	88.9
97.5°	69.0	72.3	75.6	78.8	82.1	83.2	82.2	81.1	80.1	79.1	84.5
100°	92.1	99.2	106.3	113.4	120.6	118.8	108.2	97.5	86.9	76.2	81.5
102.5°	118.4	124.4	130.4	136.4	142.4	139.2	126.8	114.4	102.0	89.6	91.1
105°	157.0	161.9	166.8	171.7	176.6	177.2	173.5	169.9	166.2	162.6	146.9
107.5°	197.1	201.2	205.3	209.4	213.5	219.4	227.2	235.0	242.8	250.6	240.0
110°	223.8	227.5	231.0	234.7	238.4	243.8	251.1	258.4	265.8	273.1	273.3



TEST NUMBER: P331922-940

CATALOG NUMBER: S123DIP-S560D585U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	249.9	252.9	256.0	259.0	262.1	267.2	274.2	281.3	288.4	295.4	299.3
115°	287.8	290.3	292.7	295.2	297.7	302.2	308.7	315.1	321.6	328.1	332.9
117.5°	324.9	326.9	328.9	330.8	332.8	336.5	342.2	347.9	353.5	359.2	363.6
120°	347.6	349.4	351.1	352.8	354.6	358.2	363.6	368.9	374.3	379.6	384.0
122.5°	371.1	372.4	373.6	374.9	376.1	379.3	384.5	389.7	394.8	400.1	404.1
125°	402.8	403.8	404.7	405.6	406.4	409.3	414.2	419.0	423.9	428.7	432.1
127.5°	434.2	434.9	435.7	436.4	437.1	439.6	443.8	448.0	452.2	456.4	459.8
130°	453.7	454.4	455.2	455.9	456.6	458.8	462.3	465.7	469.3	472.8	476.1
132.5°	471.9	472.7	473.6	474.5	475.4	477.2	480.0	482.8	485.5	488.3	491.5
135°	500.3	500.8	501.3	501.9	502.4	503.7	505.9	508.0	510.1	512.2	515.3
137.5°	524.6	525.3	526.0	526.8	527.5	528.5	529.7	530.8	532.1	533.2	536.2
140°	540.3	541.0	541.6	542.3	543.1	543.8	544.6	545.4	546.2	546.9	549.7
142.5°	555.4	555.9	556.4	557.1	557.6	558.0	558.5	558.9	559.4	559.8	562.2
145°	576.4	577.0	577.7	578.4	579.0	579.4	579.6	579.9	580.1	580.3	581.8
147.5°	595.6	596.1	596.6	597.1	597.6	598.0	598.2	598.4	598.7	599.0	599.5
150°	607.8	608.1	608.4	608.8	609.1	609.4	609.7	609.8	610.1	610.3	610.6
152.5°	618.8	618.9	619.0	619.2	619.4	619.6	619.6	619.8	619.9	620.1	620.5
155°	634.2	634.0	633.7	633.6	633.3	633.3	633.4	633.5	633.6	633.7	634.3
157.5°	646.2	646.2	646.1	646.1	646.1	646.0	646.0	645.9	645.7	645.6	646.3
160°	653.5	653.4	653.4	653.2	653.1	653.0	652.8	652.7	652.6	652.6	653.2
162.5°	660.5	660.1	659.9	659.6	659.2	659.1	659.0	658.9	658.7	658.6	659.4
165°	668.8	668.4	668.2	667.8	667.4	667.2	667.1	667.0	666.9	666.7	667.7
167.5°	675.3	674.8	674.4	674.0	673.5	673.2	673.2	673.2	673.2	673.2	674.2
170°	678.9	678.5	678.1	677.6	677.2	676.9	676.9	676.9	676.9	676.9	677.9
172.5°	681.4	680.9	680.3	679.8	679.2	679.0	679.1	679.2	679.3	679.4	680.3
175°	684.6	684.0	683.4	682.9	682.3	682.1	682.2	682.3	682.4	682.5	683.3
177.5°	685.4	684.9	684.5	684.0	683.6	683.4	683.5	683.6	683.7	683.8	684.5
180°	684.6	684.6	684.6	684.6	684.6	684.6	684.6	684.6	684.6	684.6	684.6



TEST NUMBER: P331922-940

CATALOG NUMBER: S123DIP-S560D585U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1
2.5°	625.7	626.7	627.7	628.1	627.9	627.9	627.8	627.6
5°	624.7	625.9	627.1	627.7	627.5	627.3	627.2	627.1
7.5°	620.9	622.4	624.0	624.6	624.5	624.3	624.1	623.9
10°	617.2	618.7	620.2	620.7	620.5	620.2	619.8	619.6
12.5°	612.0	613.3	614.7	615.3	615.0	614.7	614.4	614.1
15°	602.1	603.6	605.1	605.8	605.6	605.5	605.4	605.2
17.5°	589.2	590.6	591.9	592.5	592.3	592.1	591.9	591.7
20°	580.0	581.3	582.6	583.4	583.5	583.7	583.9	584.0
22.5°	569.7	571.5	573.2	574.0	573.9	573.8	573.7	573.6
25°	552.4	554.5	556.4	557.4	557.4	557.4	557.4	557.4
27.5°	534.4	536.1	537.8	538.8	538.9	539.0	539.1	539.2
30°	522.1	523.9	525.8	526.6	526.6	526.6	526.6	526.6
32.5°	508.6	510.6	512.6	513.7	514.1	514.4	514.8	515.1
35°	488.8	491.2	493.4	494.8	495.4	496.1	496.7	497.3
37.5°	468.2	470.8	473.4	475.0	475.5	475.9	476.4	476.9
40°	454.6	457.2	459.8	461.4	462.0	462.6	463.2	463.8
42.5°	440.3	443.2	446.0	447.8	448.7	449.5	450.4	451.2
45°	419.0	421.9	424.8	426.9	428.0	429.3	430.5	431.7
47.5°	397.5	400.7	403.9	406.1	407.0	408.0	408.9	409.8
50°	382.6	386.2	389.7	391.9	393.0	394.0	395.1	396.2
52.5°	367.7	371.2	374.9	377.3	378.6	379.9	381.2	382.5
55°	344.9	349.0	353.1	355.8	357.0	358.2	359.4	360.7
57.5°	321.8	325.9	330.0	332.8	334.2	335.6	337.1	338.5
60°	305.7	309.9	314.1	317.1	318.8	320.4	322.1	323.8
62.5°	290.3	294.6	298.8	301.8	303.3	304.8	306.4	307.9
65°	265.9	270.5	275.1	278.1	279.6	281.2	282.7	284.2
67.5°	241.7	246.6	251.6	254.8	256.0	257.3	258.6	259.8
70°	225.6	230.4	235.3	238.4	240.0	241.5	243.0	244.5
72.5°	209.4	214.4	219.4	222.7	224.2	225.7	227.2	228.7
75°	184.9	189.9	194.9	198.3	200.1	202.0	203.8	205.6
77.5°	161.9	167.2	172.5	175.8	177.3	178.6	180.0	181.5
80°	147.0	152.1	157.3	160.6	162.1	163.6	165.1	166.7
82.5°	133.3	138.4	143.6	147.0	148.5	150.0	151.5	153.0
85°	114.1	119.3	124.5	127.8	129.3	130.8	132.3	133.8
87.5°	100.0	105.2	110.5	113.9	115.5	117.0	118.6	120.1
90°	100.6	106.2	111.8	115.6	117.3	119.0	120.7	122.5
92.5°	97.4	103.1	108.9	112.5	114.0	115.6	117.2	118.7
95°	94.3	99.9	105.4	108.9	110.4	111.9	113.4	114.9
97.5°	90.0	95.3	100.8	104.3	105.9	107.5	109.2	110.8
100°	86.9	92.1	97.5	100.9	102.5	104.2	105.8	107.5
102.5°	92.6	94.1	95.5	97.1	98.8	100.6	102.3	104.0
105°	131.1	115.4	99.6	92.5	94.1	95.7	97.3	98.9
107.5°	229.4	218.8	208.2	196.0	182.3	168.5	154.8	141.1
110°	273.5	273.8	273.9	266.6	251.6	236.7	221.8	206.8





TEST NUMBER: P331922-940

CATALOG NUMBER: S123DIP-S560D585U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	303.3	307.1	311.0	311.9	309.9	307.7	305.7	303.6
115°	337.7	342.4	347.2	350.4	352.1	353.7	355.4	357.1
117.5°	368.2	372.7	377.2	380.1	381.4	382.6	384.0	385.2
120°	388.4	392.8	397.2	399.9	401.0	402.1	403.1	404.2
122.5°	408.0	412.1	416.1	418.7	419.8	421.0	422.1	423.3
125°	435.6	439.0	442.4	444.7	446.0	447.3	448.6	449.9
127.5°	463.1	466.5	469.8	471.9	472.7	473.5	474.3	475.2
130°	479.5	482.8	486.1	488.1	488.8	489.5	490.2	490.9
132.5°	494.8	498.0	501.2	503.2	503.9	504.6	505.3	506.0
135°	518.4	521.4	524.5	526.2	526.6	527.1	527.5	527.9
137.5°	539.1	542.1	545.0	546.7	547.2	547.8	548.3	548.8
140°	552.4	555.1	557.9	559.5	560.0	560.5	561.1	561.6
142.5°	564.5	566.9	569.4	570.8	571.2	571.7	572.1	572.6
145°	583.2	584.6	586.0	587.1	587.7	588.3	588.9	589.5
147.5°	600.1	600.7	601.3	601.5	601.6	601.6	601.6	601.7
150°	610.7	611.0	611.2	611.3	611.3	611.3	611.2	611.2
152.5°	620.9	621.3	621.7	621.7	621.3	620.7	620.3	619.8
155°	634.8	635.4	636.0	635.9	635.3	634.5	633.9	633.2
157.5°	646.9	647.6	648.4	648.2	647.3	646.5	645.6	644.7
160°	653.9	654.5	655.2	655.1	654.4	653.6	652.8	652.0
162.5°	660.1	660.9	661.7	661.7	661.0	660.3	659.6	659.0
165°	668.6	669.5	670.4	670.5	669.7	668.9	668.1	667.3
167.5°	675.1	676.0	676.9	676.9	676.0	675.1	674.2	673.2
170°	678.8	679.7	680.6	680.6	679.7	678.8	677.9	676.9
172.5°	681.2	682.1	683.0	683.0	682.0	681.0	679.9	678.9
175°	684.1	684.9	685.7	685.6	684.7	683.9	683.0	682.0
177.5°	685.2	685.9	686.6	686.5	685.6	684.7	683.9	683.0
180°	684.6	684.6	684.6	684.6	684.6	684.6	684.6	684.6

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