

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

Luminaire Tested: **S123DIP-S560D585U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331922  
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-S560D585U835-4F0-1E-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: 4706.3 lumens  
Efficiency: N/A  
Efficacy: 143.5 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

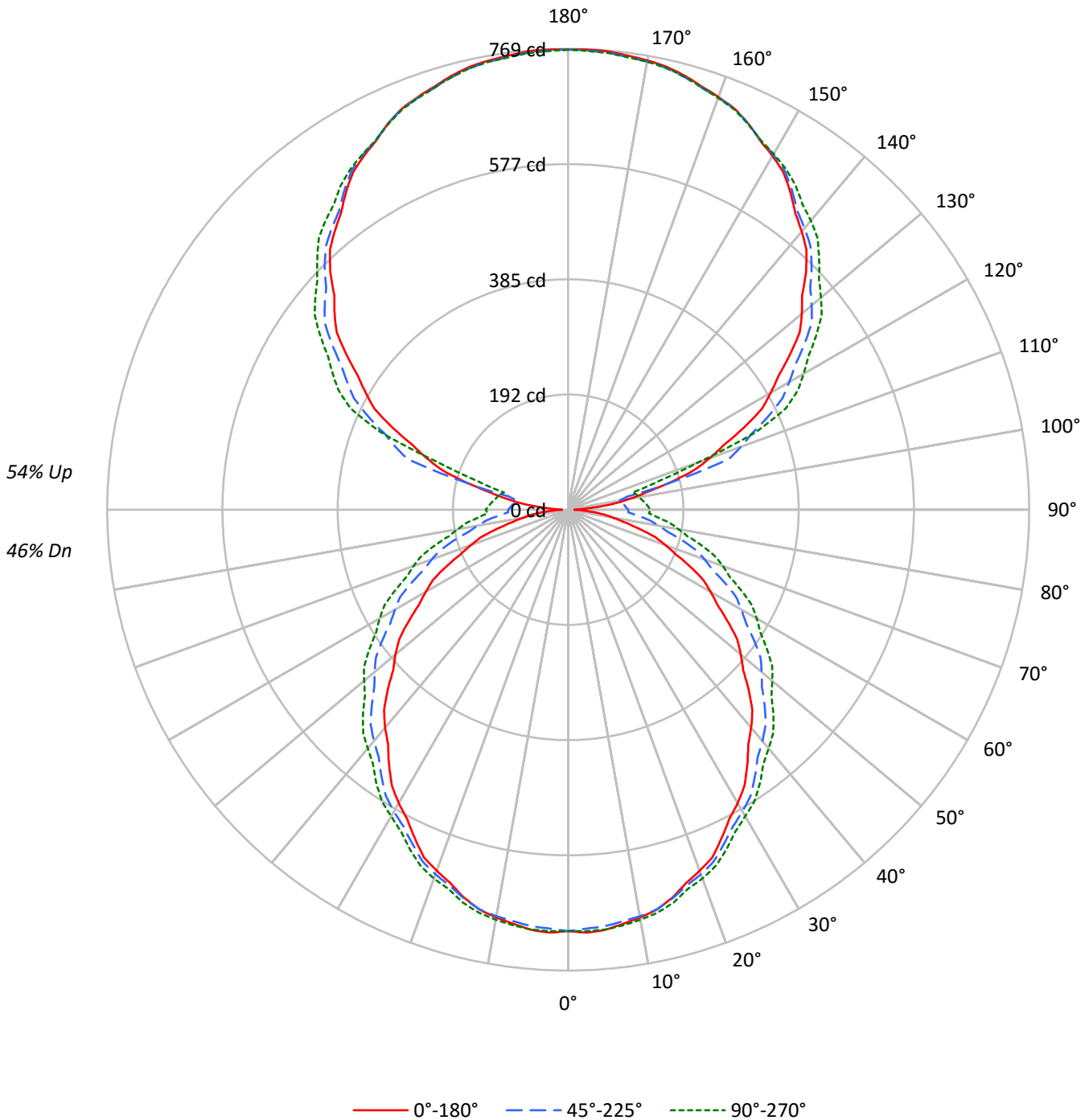
Input Watts (W): 32.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331922

CATALOG NUMBER: S123DIP-S560D585U835-4F0-1E-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	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°	7569	7569	7569
5°	7593	7378	7383
10°	7525	7209	7173
15°	7428	7016	6943
20°	7289	6795	6690
25°	7119	6541	6425
30°	6943	6313	6156
35°	6746	6072	5942
40°	6558	5852	5711
45°	6351	5641	5527
50°	6145	5433	5325
55°	5919	5219	5143
60°	5697	5003	4956
65°	5471	4772	4733
70°	5132	4514	4504
75°	4700	4216	4274
80°	4202	3924	4008
85°	3741	3722	3854



TEST NUMBER: P331922

CATALOG NUMBER: S123DIP-S560D585U835-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.7	1.4
10°-20°	190.0	4.0
20°-30°	284.2	6.0
30°-40°	339.4	7.2
40°-50°	355.1	7.5
50°-60°	333.2	7.1
60°-70°	278.3	5.9
70°-80°	199.1	4.2
80°-90°	120.9	2.6
90°-100°	102.4	2.2
100°-110°	187.8	4.0
110°-120°	356.1	7.6
120°-130°	427.8	9.1
130°-140°	444.1	9.4
140°-150°	408.5	8.7
150°-160°	327.9	7.0
160°-170°	211.6	4.5
170°-180°	72.9	1.5
0°-30°	540.9	11.5
0°-40°	880.3	18.7
0°-60°	1568.7	33.3
0°-90°	2167.1	46.0
90°-120°	646.3	13.7
90°-150°	1926.7	40.9
90°-180°	2539.0	53.9
0°-180°	4706.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	703	703	703	703	703	
5°	704	702	698	704	703	67
15°	670	672	672	679	679	189
25°	605	613	615	625	625	279
35°	521	533	543	554	558	326
45°	426	444	463	478	484	328
55°	325	350	378	398	404	291
65°	224	255	288	310	319	222
75°	122	158	196	220	231	130
85°	38	76	116	141	150	39
90°	10	54	100	128	137	8
95°	43	52	94	120	129	50
105°	176	198	182	108	111	186
115°	323	336	368	391	400	319
125°	452	457	481	497	504	404
135°	561	564	574	589	592	432
145°	646	650	651	658	661	404
155°	711	710	711	713	710	328
165°	750	748	748	752	748	212
175°	768	765	765	769	765	73
180°	768	768	768	768	768	



TEST NUMBER: P331922

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2
2.5°	706.3	705.9	705.5	705.0	704.6	703.9	702.8	701.7	700.6	699.5	700.6
5°	704.0	703.6	703.3	703.0	702.6	701.9	700.9	699.9	698.9	697.8	699.2
7.5°	697.1	697.1	697.2	697.3	697.4	696.9	695.9	694.9	693.9	692.9	694.6
10°	691.0	691.3	691.6	692.0	692.3	692.1	691.2	690.4	689.5	688.7	690.4
12.5°	683.6	684.1	684.6	685.0	685.5	685.5	684.9	684.3	683.7	683.1	684.7
15°	670.3	670.8	671.3	671.8	672.3	672.5	672.3	672.1	672.0	671.8	673.5
17.5°	653.4	654.4	655.5	656.5	657.5	658.0	657.9	657.8	657.8	657.7	659.2
20°	641.2	642.2	643.2	644.2	645.2	645.9	646.3	646.6	646.9	647.3	648.8
22.5°	628.3	629.3	630.3	631.4	632.4	633.1	633.6	634.1	634.6	635.0	637.0
25°	605.2	606.9	608.6	610.3	612.0	613.1	613.6	614.1	614.6	615.1	617.3
27.5°	581.9	583.8	585.8	587.7	589.6	591.1	592.2	593.3	594.4	595.5	597.4
30°	565.3	567.5	569.7	572.0	574.2	576.0	577.3	578.7	580.0	581.4	583.5
32.5°	546.9	549.4	551.9	554.4	556.9	559.0	560.8	562.5	564.3	566.1	568.3
35°	520.9	523.6	526.3	529.1	531.8	534.3	536.5	538.7	540.9	543.1	545.7
37.5°	493.3	496.4	499.4	502.5	505.6	508.5	511.2	513.9	516.6	519.4	522.3
40°	474.9	478.0	481.1	484.1	487.2	490.4	493.8	497.2	500.6	504.0	506.9
42.5°	454.7	458.5	462.2	465.9	469.7	473.3	476.9	480.4	484.0	487.5	490.7
45°	425.9	430.0	434.1	438.2	442.2	446.4	450.7	454.9	459.2	463.4	466.7
47.5°	395.7	400.4	405.0	409.6	414.2	419.0	423.9	428.7	433.6	438.5	442.1
50°	376.1	380.9	385.6	390.4	395.2	400.2	405.5	410.8	416.0	421.3	425.2
52.5°	355.3	360.3	365.4	370.4	375.4	380.9	386.7	392.5	398.3	404.2	408.2
55°	324.8	330.4	336.0	341.6	347.3	353.1	359.3	365.4	371.5	377.6	382.2
57.5°	295.1	300.9	306.8	312.6	318.5	324.8	331.5	338.2	344.9	351.6	356.2
60°	274.2	280.4	286.5	292.6	298.7	305.3	312.3	319.3	326.2	333.2	338.0
62.5°	254.6	260.9	267.2	273.4	279.7	286.5	293.9	301.3	308.7	316.1	320.8
65°	224.4	231.1	237.7	244.4	251.0	258.1	265.6	273.0	280.5	288.0	293.1
67.5°	193.8	200.9	207.9	214.9	222.0	229.3	237.0	244.6	252.2	259.8	265.4
70°	172.4	179.7	187.0	194.3	201.6	209.4	217.5	225.7	233.9	242.1	247.5
72.5°	152.7	160.1	167.4	174.7	182.0	189.9	198.3	206.8	215.2	223.7	229.3
75°	121.8	129.8	137.8	145.8	153.8	162.1	170.6	179.1	187.6	196.1	201.7
77.5°	94.8	102.9	111.0	119.0	127.1	135.4	144.0	152.6	161.2	169.8	175.7
80°	75.8	84.2	92.5	100.9	109.2	117.8	126.6	135.5	144.4	153.2	159.0
82.5°	59.3	67.8	76.2	84.7	93.2	101.9	110.9	119.9	128.9	137.9	143.7
85°	37.5	46.0	54.6	63.1	71.6	80.3	89.4	98.4	107.4	116.4	122.2
87.5°	20.5	29.2	38.0	46.7	55.4	64.3	73.3	82.3	91.3	100.3	106.2
90°	10.5	20.1	29.7	39.4	49.0	58.9	69.3	79.6	89.9	100.2	106.5
92.5°	20.0	27.1	34.3	41.5	48.6	57.1	66.9	76.7	86.5	96.3	102.7
95°	43.2	44.7	46.1	47.5	49.0	54.6	64.3	74.0	83.8	93.5	99.7
97.5°	77.4	81.1	84.8	88.4	92.1	93.3	92.2	91.0	89.8	88.7	94.8
100°	103.3	111.3	119.2	127.2	135.2	133.2	121.3	109.3	97.4	85.5	91.4
102.5°	132.8	139.5	146.2	153.0	159.7	156.1	142.2	128.3	114.4	100.5	102.2
105°	176.1	181.6	187.1	192.5	198.0	198.7	194.6	190.5	186.4	182.4	164.7
107.5°	221.0	225.6	230.2	234.8	239.4	246.0	254.8	263.5	272.3	281.0	269.1
110°	251.0	255.1	259.1	263.2	267.3	273.4	281.6	289.8	298.1	306.3	306.5



TEST NUMBER: P331922

CATALOG NUMBER: S123DIP-S560D585U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	280.2	283.6	287.1	290.5	293.9	299.6	307.5	315.5	323.4	331.3	335.7
115°	322.7	325.5	328.3	331.1	333.9	338.9	346.2	353.4	360.7	368.0	373.3
117.5°	364.4	366.6	368.8	371.0	373.2	377.4	383.8	390.1	396.4	402.8	407.8
120°	389.8	391.8	393.7	395.7	397.7	401.7	407.7	413.7	419.7	425.7	430.6
122.5°	416.2	417.6	419.0	420.4	421.8	425.4	431.2	437.0	442.8	448.7	453.2
125°	451.7	452.8	453.8	454.8	455.8	459.0	464.5	469.9	475.4	480.8	484.6
127.5°	486.9	487.7	488.6	489.4	490.2	493.0	497.7	502.4	507.1	511.8	515.6
130°	508.8	509.6	510.5	511.3	512.1	514.5	518.4	522.3	526.3	530.2	533.9
132.5°	529.2	530.1	531.1	532.1	533.1	535.1	538.3	541.4	544.5	547.6	551.2
135°	561.1	561.6	562.2	562.8	563.4	564.9	567.3	569.7	572.0	574.4	577.9
137.5°	588.3	589.1	589.9	590.8	591.6	592.7	594.0	595.3	596.7	598.0	601.3
140°	605.9	606.7	607.4	608.2	609.0	609.8	610.7	611.6	612.5	613.3	616.4
142.5°	622.8	623.4	624.0	624.7	625.3	625.8	626.3	626.8	627.3	627.8	630.5
145°	646.4	647.1	647.8	648.6	649.3	649.8	650.0	650.3	650.5	650.8	652.4
147.5°	667.9	668.5	669.1	669.6	670.2	670.6	670.9	671.1	671.4	671.7	672.3
150°	681.6	682.0	682.3	682.7	683.1	683.4	683.7	683.9	684.2	684.4	684.7
152.5°	693.9	694.1	694.2	694.4	694.6	694.8	694.9	695.1	695.2	695.4	695.8
155°	711.2	711.0	710.7	710.5	710.2	710.2	710.3	710.4	710.5	710.7	711.3
157.5°	724.7	724.7	724.6	724.6	724.6	724.5	724.4	724.3	724.1	724.0	724.8
160°	732.9	732.8	732.7	732.5	732.4	732.3	732.1	732.0	731.9	731.8	732.5
162.5°	740.7	740.3	740.0	739.7	739.3	739.1	739.0	738.9	738.7	738.6	739.5
165°	750.0	749.6	749.3	748.9	748.5	748.2	748.1	748.0	747.9	747.7	748.8
167.5°	757.3	756.8	756.3	755.8	755.3	755.0	755.0	755.0	755.0	755.0	756.1
170°	761.4	760.9	760.4	759.9	759.4	759.1	759.1	759.1	759.1	759.1	760.2
172.5°	764.2	763.6	762.9	762.3	761.7	761.5	761.6	761.7	761.8	761.9	762.9
175°	767.7	767.1	766.4	765.8	765.2	764.9	765.0	765.2	765.3	765.4	766.3
177.5°	768.6	768.1	767.6	767.1	766.6	766.4	766.5	766.6	766.7	766.8	767.6
180°	767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7



TEST NUMBER: P331922

CATALOG NUMBER: S123DIP-S560D585U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2
2.5°	701.7	702.8	703.9	704.4	704.2	704.1	704.0	703.8
5°	700.6	701.9	703.3	703.9	703.7	703.5	703.4	703.2
7.5°	696.3	698.0	699.8	700.5	700.3	700.1	699.9	699.7
10°	692.1	693.8	695.5	696.1	695.8	695.5	695.1	694.8
12.5°	686.3	687.8	689.4	690.0	689.7	689.3	689.0	688.7
15°	675.2	676.9	678.6	679.4	679.2	679.0	678.9	678.7
17.5°	660.8	662.3	663.8	664.5	664.2	664.0	663.8	663.5
20°	650.4	651.9	653.4	654.3	654.4	654.6	654.8	654.9
22.5°	638.9	640.9	642.8	643.7	643.6	643.5	643.4	643.3
25°	619.5	621.8	624.0	625.1	625.1	625.1	625.1	625.1
27.5°	599.3	601.2	603.1	604.2	604.3	604.4	604.6	604.7
30°	585.5	587.5	589.6	590.6	590.6	590.6	590.6	590.6
32.5°	570.4	572.6	574.8	576.1	576.5	576.9	577.3	577.7
35°	548.2	550.8	553.3	554.9	555.6	556.3	557.0	557.7
37.5°	525.1	528.0	530.9	532.7	533.2	533.7	534.3	534.8
40°	509.8	512.7	515.6	517.4	518.1	518.8	519.4	520.1
42.5°	493.8	497.0	500.2	502.2	503.2	504.1	505.1	506.0
45°	469.9	473.1	476.4	478.7	480.0	481.4	482.8	484.1
47.5°	445.8	449.4	453.0	455.4	456.4	457.5	458.6	459.6
50°	429.1	433.1	437.0	439.5	440.7	441.9	443.1	444.3
52.5°	412.3	416.3	420.4	423.1	424.6	426.0	427.5	429.0
55°	386.8	391.4	396.0	399.0	400.4	401.7	403.1	404.5
57.5°	360.9	365.5	370.1	373.2	374.8	376.4	378.0	379.6
60°	342.8	347.5	352.3	355.6	357.5	359.3	361.2	363.1
62.5°	325.6	330.4	335.1	338.4	340.1	341.8	343.6	345.3
65°	298.2	303.3	308.5	311.9	313.6	315.3	317.0	318.7
67.5°	271.0	276.6	282.2	285.7	287.1	288.5	290.0	291.4
70°	253.0	258.4	263.9	267.4	269.1	270.8	272.5	274.2
72.5°	234.8	240.4	246.0	249.7	251.4	253.1	254.8	256.5
75°	207.3	213.0	218.6	222.4	224.4	226.5	228.5	230.6
77.5°	181.6	187.5	193.4	197.2	198.8	200.3	201.9	203.5
80°	164.8	170.6	176.4	180.1	181.8	183.5	185.2	186.9
82.5°	149.5	155.2	161.0	164.8	166.5	168.2	169.9	171.6
85°	128.0	133.8	139.6	143.3	145.0	146.7	148.4	150.1
87.5°	112.1	118.0	123.9	127.7	129.5	131.2	133.0	134.7
90°	112.8	119.1	125.4	129.6	131.5	133.5	135.4	137.4
92.5°	109.2	115.6	122.1	126.2	127.9	129.6	131.4	133.1
95°	105.8	112.0	118.2	122.1	123.8	125.5	127.2	128.9
97.5°	100.9	106.9	113.0	117.0	118.8	120.6	122.5	124.3
100°	97.4	103.3	109.3	113.2	115.0	116.8	118.6	120.5
102.5°	103.8	105.5	107.1	108.9	110.8	112.8	114.7	116.6
105°	147.0	129.4	111.7	103.7	105.5	107.3	109.1	110.9
107.5°	257.3	245.4	233.5	219.8	204.4	189.0	173.6	158.2
110°	306.7	307.0	307.2	299.0	282.2	265.4	248.7	231.9





TEST NUMBER: P331922

CATALOG NUMBER: S123DIP-S560D585U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	340.1	344.4	348.8	349.8	347.5	345.1	342.8	340.5
115°	378.7	384.0	389.4	393.0	394.9	396.7	398.6	400.5
117.5°	412.9	418.0	423.0	426.3	427.7	429.1	430.6	432.0
120°	435.6	440.5	445.4	448.5	449.7	450.9	452.1	453.3
122.5°	457.6	462.1	466.6	469.5	470.8	472.1	473.4	474.7
125°	488.5	492.3	496.1	498.7	500.2	501.6	503.1	504.5
127.5°	519.3	523.1	526.9	529.2	530.1	531.0	531.9	532.9
130°	537.7	541.4	545.1	547.4	548.2	548.9	549.7	550.5
132.5°	554.9	558.5	562.1	564.3	565.1	565.9	566.7	567.5
135°	581.3	584.7	588.2	590.1	590.6	591.1	591.6	592.0
137.5°	604.6	607.9	611.2	613.1	613.7	614.3	614.9	615.5
140°	619.5	622.5	625.6	627.4	628.0	628.6	629.2	629.8
142.5°	633.1	635.8	638.5	640.1	640.6	641.1	641.6	642.1
145°	654.0	655.6	657.2	658.4	659.1	659.7	660.4	661.1
147.5°	673.0	673.6	674.3	674.6	674.7	674.7	674.7	674.8
150°	684.9	685.2	685.4	685.5	685.5	685.5	685.4	685.4
152.5°	696.3	696.7	697.2	697.2	696.7	696.1	695.6	695.1
155°	711.9	712.6	713.2	713.1	712.4	711.6	710.9	710.1
157.5°	725.5	726.3	727.1	726.9	725.9	725.0	724.0	723.0
160°	733.3	734.0	734.8	734.7	733.9	733.0	732.1	731.2
162.5°	740.3	741.2	742.1	742.1	741.3	740.5	739.7	739.0
165°	749.8	750.8	751.8	751.9	751.0	750.1	749.2	748.3
167.5°	757.1	758.1	759.1	759.1	758.1	757.1	756.1	755.0
170°	761.2	762.2	763.2	763.2	762.2	761.2	760.2	759.1
172.5°	763.9	764.9	765.9	765.9	764.8	763.7	762.5	761.4
175°	767.2	768.1	769.0	768.9	767.9	766.9	765.9	764.8
177.5°	768.4	769.2	770.0	769.9	768.9	767.9	766.9	765.9
180°	767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7

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