

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: P331927-940

Luminaire Tested: **S123DIP-S560D585U940-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331927-940
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: S123DIP-S560D585U940-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3959.3 lumens
Efficiency: N/A
Efficacy: 120.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

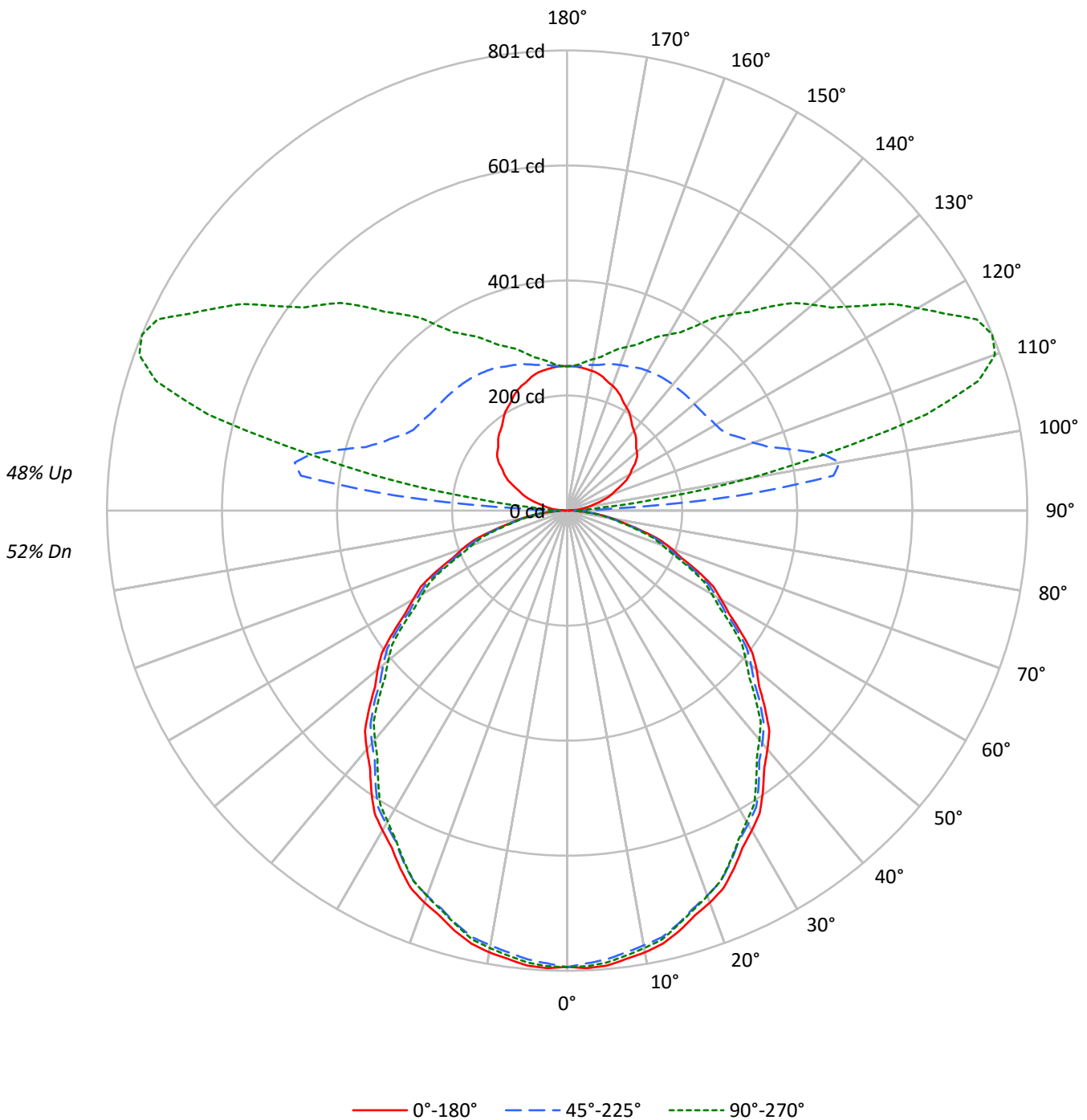
Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331927-940

CATALOG NUMBER: S123DIP-S560D585U940-4F0-1E-UDD-F4

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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52
1	98	94	90	86	91	87	84	81	74	72	69	62	60	59	51	50	49	44
2	89	82	76	70	82	76	71	66	65	61	57	55	52	49	45	43	41	37
3	82	72	65	59	75	67	60	55	57	52	48	48	45	42	40	37	35	31
4	75	64	56	50	69	59	52	47	51	45	41	43	39	36	36	33	30	27
5	68	57	49	43	63	53	46	40	45	40	35	39	34	31	32	29	26	23
6	63	51	43	37	58	47	40	35	41	35	31	35	30	27	29	26	23	20
7	58	46	38	32	54	43	36	31	37	31	27	32	27	24	27	23	21	18
8	54	42	34	29	50	39	32	27	34	28	24	29	25	21	24	21	18	16
9	50	38	31	25	47	36	29	24	31	26	22	27	22	19	23	19	17	14
10	47	35	28	23	44	33	26	22	29	23	20	25	20	17	21	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8551	8551	8551
5°	8590	8473	8532
10°	8534	8400	8451
15°	8433	8304	8320
20°	8317	8168	8176
25°	8162	8007	7991
30°	7988	7828	7768
35°	7808	7638	7540
40°	7620	7429	7314
45°	7415	7237	7060
50°	7206	7000	6805
55°	6934	6756	6549
60°	6661	6469	6265
65°	6421	6159	5968
70°	6061	5803	5545
75°	5540	5340	5115
80°	4996	4785	4742
85°	4384	4224	4051



TEST NUMBER: P331927-940

CATALOG NUMBER: S123DIP-S560D585U940-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.8	1.9
10°-20°	211.3	5.3
20°-30°	312.1	7.9
30°-40°	364.6	9.2
40°-50°	366.5	9.3
50°-60°	322.0	8.1
60°-70°	239.9	6.1
70°-80°	136.7	3.5
80°-90°	41.2	1.0
90°-100°	139.8	3.5
100°-110°	395.9	10.0
110°-120°	389.5	9.8
120°-130°	310.7	7.8
130°-140°	244.9	6.2
140°-150°	182.8	4.6
150°-160°	127.4	3.2
160°-170°	74.9	1.9
170°-180°	24.4	0.6
0°-30°	598.2	15.1
0°-40°	962.8	24.3
0°-60°	1651.3	41.7
0°-90°	2069.1	52.3
90°-120°	925.2	23.4
90°-150°	1663.7	42.0
90°-180°	1890.0	47.7
0°-180°	3959.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	794	794	794	794	794	
5°	795	791	784	791	790	75
15°	757	754	745	750	747	213
25°	687	683	674	675	673	316
35°	594	590	581	577	574	372
45°	487	484	475	467	464	376
55°	370	368	360	353	349	331
65°	252	248	242	236	234	249
75°	133	131	128	125	123	142
85°	36	34	34	33	33	39
90°	1	6	13	14	15	3
95°	17	56	302	88	59	19
105°	59	87	409	715	647	63
115°	104	130	313	686	787	103
125°	145	171	292	529	620	129
135°	170	203	288	436	503	131
145°	194	222	284	357	393	121
155°	220	238	275	313	326	101
165°	241	247	264	279	284	68
175°	251	251	253	256	256	24
180°	251	251	251	251	251	



TEST NUMBER: P331927-940

CATALOG NUMBER: S123DIP-S560D585U940-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4
2.5°	797.1	796.7	796.2	795.7	795.2	794.2	792.9	791.6	790.3	789.0	790.1
5°	795.0	794.3	793.5	792.8	792.0	790.9	789.2	787.5	785.9	784.2	785.7
7.5°	787.3	786.6	785.8	785.1	784.3	783.0	781.3	779.5	777.8	776.1	777.5
10°	780.8	780.0	779.3	778.5	777.8	776.3	774.4	772.4	770.4	768.5	769.8
12.5°	772.0	771.3	770.7	770.1	769.5	768.2	766.3	764.5	762.7	760.8	761.8
15°	756.8	756.3	755.6	755.0	754.4	753.1	751.2	749.2	747.2	745.2	746.5
17.5°	739.2	738.4	737.6	736.8	736.0	734.7	732.7	730.8	728.8	726.7	727.6
20°	726.1	725.2	724.2	723.4	722.5	721.0	719.1	717.1	715.1	713.1	713.7
22.5°	711.3	710.4	709.5	708.6	707.7	706.2	704.3	702.3	700.3	698.4	698.8
25°	687.2	686.3	685.4	684.5	683.5	682.1	680.1	678.1	676.2	674.2	674.3
27.5°	661.4	660.5	659.6	658.7	657.8	656.3	654.2	652.1	650.0	647.8	647.9
30°	642.7	642.0	641.2	640.5	639.7	638.3	636.1	634.0	632.0	629.8	629.8
32.5°	624.2	623.2	622.1	621.2	620.2	618.8	617.2	615.5	613.9	612.3	611.4
35°	594.2	593.3	592.5	591.6	590.7	589.2	587.2	585.2	583.3	581.3	580.4
37.5°	563.7	562.5	561.3	560.2	559.0	557.5	555.4	553.5	551.4	549.5	548.4
40°	542.3	541.4	540.6	539.7	538.7	537.2	535.0	533.0	530.8	528.7	527.4
42.5°	521.0	520.0	519.0	517.9	516.9	515.3	513.2	511.1	509.0	506.8	505.6
45°	487.1	486.4	485.8	485.2	484.6	483.3	481.3	479.4	477.4	475.4	473.6
47.5°	453.3	452.4	451.6	450.7	449.8	448.4	446.6	444.7	442.8	441.0	439.2
50°	430.3	429.5	428.8	428.0	427.3	426.0	423.9	422.0	420.0	418.0	416.3
52.5°	406.3	405.7	405.3	404.7	404.2	402.9	400.8	398.8	396.6	394.6	393.2
55°	369.5	369.3	369.3	369.1	368.9	367.8	365.9	363.9	361.9	360.0	358.3
57.5°	334.6	334.0	333.5	333.1	332.5	331.4	329.8	328.3	326.7	325.1	323.7
60°	309.4	309.2	309.2	309.0	308.8	307.8	306.0	304.2	302.4	300.5	299.2
62.5°	287.0	286.6	286.2	285.9	285.4	284.4	282.5	280.7	278.8	277.1	275.7
65°	252.1	251.3	250.6	249.8	249.1	247.9	246.4	244.9	243.3	241.8	240.6
67.5°	215.0	214.4	213.7	213.0	212.3	211.4	210.3	209.1	207.9	206.9	205.8
70°	192.6	191.7	190.8	189.9	189.0	188.1	187.2	186.3	185.3	184.4	183.3
72.5°	169.2	168.4	167.8	167.1	166.5	165.6	164.6	163.5	162.5	161.5	160.5
75°	133.2	132.6	132.0	131.3	130.8	130.3	129.7	129.3	128.9	128.4	127.7
77.5°	101.4	101.0	100.7	100.4	100.0	99.6	99.1	98.5	97.9	97.4	96.9
80°	80.6	80.2	79.7	79.3	78.7	78.4	78.1	77.8	77.5	77.2	77.0
82.5°	60.4	60.3	60.2	60.1	60.0	59.9	59.9	59.8	59.7	59.7	59.4
85°	35.5	35.2	35.0	34.6	34.3	34.2	34.2	34.2	34.2	34.2	33.9
87.5°	14.4	14.3	14.1	14.0	13.9	13.8	14.0	14.2	14.4	14.5	14.4
90°	1.0	2.1	3.0	4.5	5.6	6.6	8.1	9.6	11.1	12.8	12.2
92.5°	6.3	9.4	13.6	17.6	21.8	29.4	42.7	64.6	86.1	78.2	59.0
95°	17.3	18.8	24.4	33.1	46.3	66.1	109.3	185.1	268.6	301.6	244.6
97.5°	29.5	30.1	34.4	41.9	54.9	76.4	117.7	203.1	342.1	467.4	500.1
100°	37.6	38.2	41.7	48.9	61.0	80.9	116.5	191.7	325.5	481.6	581.8
102.5°	46.2	47.1	50.3	57.0	67.9	86.1	118.1	182.0	301.1	455.2	585.9
105°	59.0	60.5	63.6	69.6	79.4	95.1	122.6	175.0	271.1	408.9	554.9
107.5°	72.6	74.2	77.1	83.1	92.2	106.8	130.9	174.4	252.0	368.0	500.6
110°	82.4	83.9	86.5	92.0	100.7	114.9	137.9	176.5	244.6	344.8	466.4



TEST NUMBER: P331927-940

CATALOG NUMBER: S123DIP-S560D585U940-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	91.3	92.9	95.4	101.0	109.7	123.5	144.7	180.6	240.6	329.4	436.7
115°	104.2	106.3	109.3	114.4	123.1	136.8	156.1	187.2	239.1	312.8	400.8
117.5°	117.2	119.5	122.1	126.7	136.4	149.1	168.3	195.9	240.0	303.0	379.2
120°	126.2	127.7	130.2	135.3	145.0	157.7	175.9	202.4	241.6	298.5	367.7
122.5°	133.8	135.4	137.9	143.4	152.7	166.2	184.1	208.6	244.4	295.7	358.4
125°	145.0	146.0	149.0	154.6	164.3	178.0	195.8	218.2	248.7	291.9	346.3
127.5°	153.4	154.9	158.7	164.3	175.0	188.8	206.0	226.1	253.6	290.1	335.8
130°	158.7	160.2	164.8	170.9	181.6	195.3	212.0	231.4	256.8	288.9	330.1
132.5°	162.7	164.7	169.7	177.0	187.7	201.0	217.4	236.3	259.3	288.5	324.8
135°	169.9	171.9	177.5	185.1	195.8	209.6	225.3	242.6	263.0	287.8	317.9
137.5°	176.6	178.7	184.2	192.3	203.0	215.6	230.8	247.3	265.4	286.8	311.9
140°	181.1	183.6	188.7	196.8	207.0	219.7	234.4	249.8	267.0	286.3	308.2
142.5°	185.9	188.1	193.6	200.9	211.1	223.0	237.3	252.2	268.2	285.5	305.0
145°	193.8	195.3	199.9	207.5	216.2	227.8	241.1	254.9	269.0	284.3	300.6
147.5°	201.7	202.6	207.1	213.7	222.0	232.0	244.2	256.5	269.0	282.4	296.3
150°	207.0	207.5	211.6	218.2	225.3	234.4	246.2	256.8	269.0	280.7	293.5
152.5°	212.3	212.4	216.5	222.3	228.5	237.3	247.4	257.7	267.9	278.7	290.3
155°	220.3	220.3	223.3	228.4	234.0	241.1	249.8	257.9	266.5	275.2	285.3
157.5°	226.5	226.9	229.3	233.9	238.6	244.2	251.0	258.4	264.7	272.0	279.8
160°	231.4	231.4	233.4	237.6	241.1	246.2	252.3	258.4	263.9	269.6	276.2
162.5°	235.1	235.1	236.7	240.0	243.1	247.4	252.7	258.0	262.3	267.2	272.5
165°	240.6	240.0	241.1	243.6	245.7	249.2	253.2	256.8	259.9	263.5	267.5
167.5°	244.8	244.2	244.6	246.6	248.0	250.2	253.2	256.0	257.4	259.8	262.8
170°	247.2	246.2	246.6	248.2	249.2	250.2	252.8	254.9	255.8	257.3	259.9
172.5°	248.8	248.2	248.3	249.4	250.0	250.7	252.8	254.4	254.6	255.3	257.1
175°	250.7	250.2	249.8	250.7	250.7	251.3	252.3	253.2	252.8	252.8	253.8
177.5°	251.6	251.3	250.8	251.3	251.3	251.3	251.6	252.4	251.6	251.3	251.6
180°	251.3	251.3	251.3	251.3	251.3	251.3	251.3	251.3	251.3	251.3	251.3



TEST NUMBER: P331927-940

CATALOG NUMBER: S123DIP-S560D585U940-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4
2.5°	791.4	792.6	793.8	794.3	794.2	794.1	794.0	793.9
5°	787.2	788.7	790.2	790.9	790.5	790.2	790.0	789.6
7.5°	778.8	780.2	781.6	782.1	781.9	781.8	781.6	781.4
10°	771.2	772.6	773.9	774.5	774.2	773.8	773.6	773.2
12.5°	762.8	763.8	764.8	765.2	765.0	764.8	764.6	764.5
15°	747.7	748.9	750.1	750.2	749.3	748.4	747.5	746.6
17.5°	728.5	729.3	730.2	730.4	730.1	729.8	729.4	729.1
20°	714.3	715.0	715.5	715.6	715.2	714.7	714.3	713.8
22.5°	699.4	699.8	700.3	700.3	699.7	699.1	698.6	697.9
25°	674.5	674.7	674.8	674.7	674.2	673.8	673.2	672.8
27.5°	648.1	648.2	648.3	648.1	647.5	646.9	646.3	645.8
30°	629.8	629.8	629.8	629.3	628.2	627.1	626.1	625.0
32.5°	610.6	609.8	608.9	608.1	607.6	607.1	606.5	605.9
35°	579.4	578.5	577.7	576.8	576.0	575.3	574.5	573.8
37.5°	547.2	546.2	545.1	544.3	543.9	543.3	542.9	542.3
40°	526.3	525.0	523.9	522.9	522.3	521.7	521.1	520.5
42.5°	504.4	503.2	501.9	501.1	500.4	499.9	499.3	498.6
45°	471.8	469.9	468.1	466.8	466.1	465.3	464.6	463.8
47.5°	437.4	435.6	433.8	432.6	431.9	431.2	430.6	429.9
50°	414.7	413.0	411.3	410.1	409.1	408.2	407.3	406.4
52.5°	391.7	390.3	388.9	387.6	386.7	385.8	385.0	384.1
55°	356.6	355.0	353.3	352.0	351.3	350.5	349.8	349.0
57.5°	322.2	320.7	319.2	318.0	317.1	316.3	315.4	314.5
60°	297.8	296.5	295.1	294.0	293.3	292.5	291.8	291.0
62.5°	274.3	273.0	271.6	270.6	270.1	269.7	269.1	268.6
65°	239.3	238.2	236.9	236.1	235.7	235.2	234.8	234.3
67.5°	204.7	203.7	202.6	201.7	201.1	200.5	199.8	199.2
70°	182.3	181.3	180.2	179.2	178.5	177.7	177.0	176.2
72.5°	159.6	158.6	157.7	157.0	156.7	156.2	155.9	155.4
75°	126.9	126.2	125.4	124.8	124.3	123.9	123.4	123.0
77.5°	96.4	95.9	95.3	95.1	95.1	95.1	95.1	95.1
80°	76.9	76.7	76.6	76.5	76.5	76.5	76.5	76.5
82.5°	59.1	58.9	58.6	58.4	58.3	58.1	58.1	58.0
85°	33.5	33.3	32.9	32.8	32.8	32.8	32.8	32.8
87.5°	14.4	14.3	14.3	14.4	14.4	14.4	14.5	14.4
90°	12.8	13.2	13.7	14.7	14.3	14.7	15.2	14.7
92.5°	42.8	34.0	30.1	27.4	26.5	24.9	25.4	24.5
95°	183.1	124.1	97.1	78.8	69.2	64.6	61.0	59.0
97.5°	456.5	365.6	300.0	239.2	201.6	178.7	165.0	160.6
100°	599.7	558.5	498.9	426.7	375.3	338.2	318.4	318.9
102.5°	647.3	646.0	611.3	565.4	525.5	496.1	479.5	467.8
105°	661.2	712.0	721.8	708.5	685.1	665.8	649.5	646.9
107.5°	621.1	703.7	748.2	766.3	766.8	760.3	754.7	750.1
110°	582.8	676.5	740.6	776.1	790.4	794.4	793.4	792.4



TEST NUMBER: P331927-940

CATALOG NUMBER: S123DIP-S560D585U940-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	545.0	640.6	712.5	758.2	784.3	796.9	800.8	800.9
115°	494.9	583.4	658.2	713.5	751.7	774.1	784.3	786.8
117.5°	458.5	534.9	602.1	658.4	698.1	723.7	738.4	741.8
120°	439.4	508.1	569.1	620.5	660.7	689.2	701.3	704.5
122.5°	424.4	486.5	543.1	590.8	626.5	652.1	665.6	669.4
125°	404.3	459.8	508.6	549.3	581.8	604.2	617.0	620.5
127.5°	386.8	436.3	480.4	517.4	546.4	565.4	576.9	580.2
130°	375.9	421.6	462.8	497.4	524.4	542.7	553.4	557.4
132.5°	365.7	407.8	446.1	479.1	504.4	522.7	532.2	535.0
135°	352.0	388.1	421.2	450.1	475.0	490.3	499.4	503.0
137.5°	339.5	369.1	397.5	422.7	443.6	459.1	466.8	469.1
140°	332.2	358.0	382.5	404.3	423.7	437.9	446.0	445.5
142.5°	325.2	347.5	368.6	387.6	404.1	416.8	424.1	423.6
145°	316.8	333.7	349.9	364.7	377.4	388.1	392.2	393.2
147.5°	310.0	323.3	336.5	347.0	356.6	363.8	367.7	368.1
150°	305.1	316.8	327.5	337.2	344.8	350.4	353.5	353.5
152.5°	300.7	310.8	320.2	328.2	334.2	339.5	341.3	341.3
155°	294.0	302.1	309.8	315.8	320.4	324.5	325.5	326.0
157.5°	286.9	293.6	299.6	304.3	308.4	311.4	312.2	312.1
160°	282.8	288.4	293.5	297.0	300.6	303.6	303.6	303.1
162.5°	277.9	282.7	287.4	290.5	292.8	295.5	295.5	295.0
165°	271.6	274.6	278.2	280.7	282.8	284.8	284.3	284.3
167.5°	266.1	268.4	270.5	272.3	273.2	274.6	274.1	274.1
170°	262.4	263.9	266.0	267.0	267.5	268.6	268.0	268.0
172.5°	259.2	260.3	261.9	262.5	262.6	263.7	262.8	262.3
175°	254.9	255.3	256.4	256.4	256.4	256.8	256.4	255.8
177.5°	252.1	252.4	252.9	252.9	252.4	252.9	252.1	252.1
180°	251.3	251.3	251.3	251.3	251.3	251.3	251.3	251.3

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