

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: P331916-940

Luminaire Tested: **S123DIP-S560D365U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331916-940
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-S560D365U940-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3361.7 lumens
Efficiency: N/A
Efficacy: 122.2 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: Semi-Direct

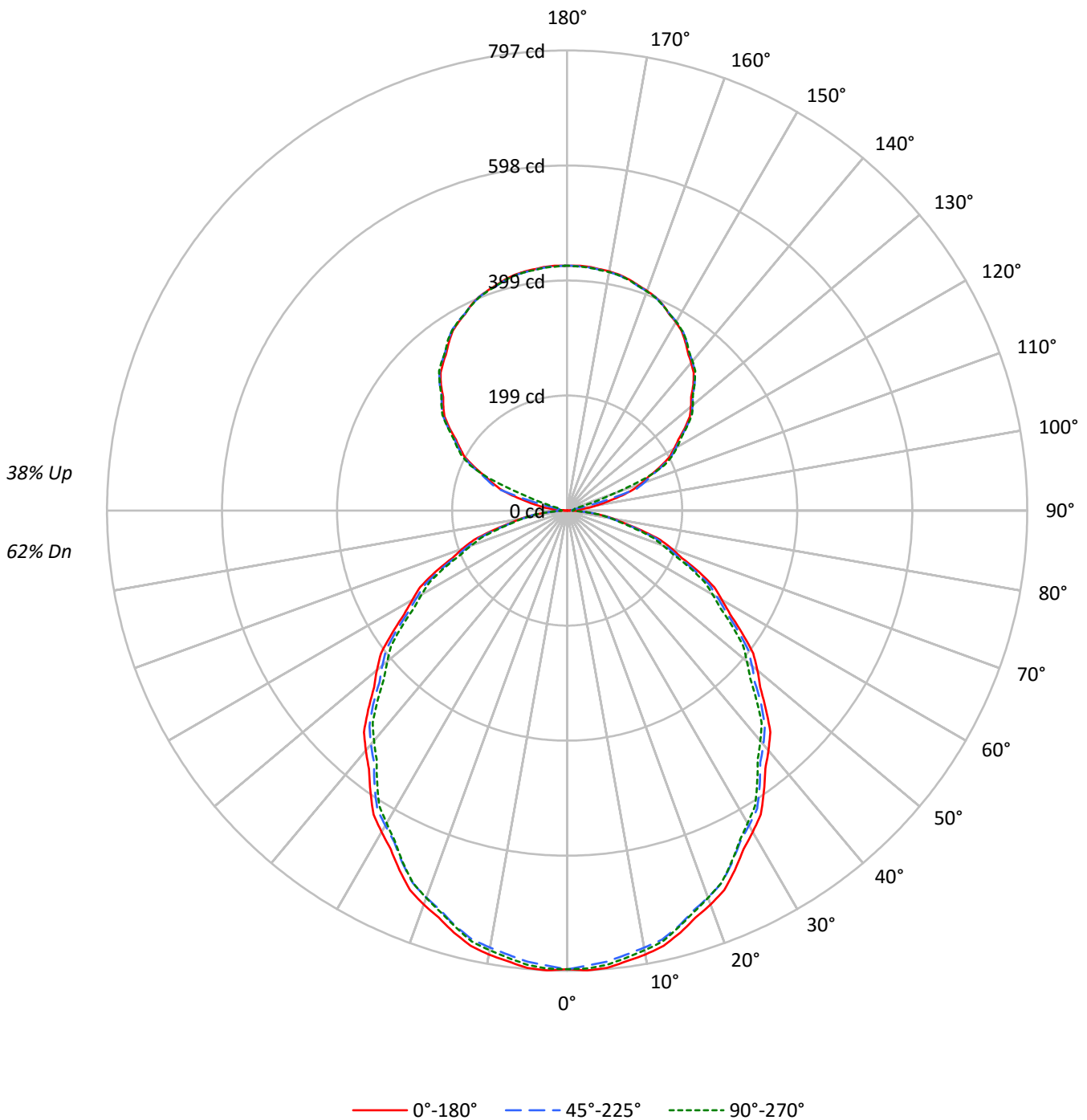
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331916-940

CATALOG NUMBER: S123DIP-S560D365U940-4F0-1E-UDD-F

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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62
1	100	96	92	88	94	90	86	83	79	76	74	68	66	65	59	57	56	52
2	91	84	77	72	85	79	73	68	69	65	61	60	57	54	52	49	47	43
3	83	74	66	60	78	69	62	57	61	56	51	53	49	46	46	43	40	37
4	76	65	57	51	71	61	54	48	54	48	44	47	43	39	41	37	35	31
5	70	58	50	44	65	55	47	42	48	42	38	42	38	34	37	33	30	27
6	65	52	44	38	60	49	42	36	44	38	33	38	33	30	33	30	27	24
7	60	47	39	33	56	45	37	32	40	34	29	35	30	26	31	27	24	21
8	55	43	35	30	52	41	33	28	36	30	26	32	27	24	28	24	21	19
9	52	39	32	26	48	37	30	25	33	27	23	29	25	21	26	22	19	17
10	48	36	29	24	45	34	27	23	31	25	21	27	23	19	24	20	17	15

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: P331916-940

CATALOG NUMBER: S123DIP-S560D365U940-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.8	2.2
10°-20°	211.3	6.3
20°-30°	312.1	9.3
30°-40°	364.6	10.8
40°-50°	366.5	10.9
50°-60°	322.0	9.6
60°-70°	239.9	7.1
70°-80°	136.7	4.1
80°-90°	40.4	1.2
90°-100°	15.4	0.5
100°-110°	73.5	2.2
110°-120°	176.5	5.3
120°-130°	224.8	6.7
130°-140°	240.2	7.1
140°-150°	224.6	6.7
150°-160°	181.2	5.4
160°-170°	116.9	3.5
170°-180°	40.3	1.2
0°-30°	598.2	17.8
0°-40°	962.8	28.6
0°-60°	1651.3	49.1
0°-90°	2068.3	61.5
90°-120°	265.4	7.9
90°-150°	955.0	28.4
90°-180°	1293.0	38.5
0°-180°	3361.7	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°	0	4	8	9	10	3
95°	19	7	10	12	12	24
105°	94	96	69	16	14	100
115°	176	178	181	184	185	174
125°	248	251	252	253	253	222
135°	309	311	312	313	312	238
145°	357	359	360	360	360	223
155°	393	392	393	394	392	181
165°	414	413	413	415	413	117
175°	424	423	423	425	423	40
180°	424	424	424	424	424	



TEST NUMBER: P331916-940

CATALOG NUMBER: S123DIP-S560D365U940-4F0-1E-UDD-F

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°	14.3	14.1	13.8	13.6	13.4	13.3	13.4	13.4	13.5	13.6	13.5
90°	0.4	1.0	1.7	2.4	3.1	3.9	4.8	5.7	6.7	7.6	7.8
92.5°	5.9	5.7	5.4	5.3	5.1	5.4	6.0	6.7	7.4	8.0	8.5
95°	19.3	16.3	13.5	10.6	7.8	6.7	7.5	8.2	9.0	9.8	10.3
97.5°	38.6	37.4	36.0	34.8	33.4	30.3	25.2	20.2	15.2	10.2	10.7
100°	53.2	54.7	56.1	57.4	58.9	54.1	43.2	32.3	21.3	10.4	11.0
102.5°	69.9	70.9	71.9	72.9	73.9	68.5	56.5	44.6	32.6	20.8	19.0
105°	93.9	94.7	95.4	96.2	97.0	94.3	87.9	81.6	75.3	69.0	56.6
107.5°	119.2	119.8	120.5	121.1	121.7	122.5	123.5	124.5	125.5	126.4	117.3
110°	136.2	136.7	137.2	137.8	138.4	139.0	139.8	140.5	141.3	142.1	139.8



TEST NUMBER: P331916-940

CATALOG NUMBER: S123DIP-S560D365U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	152.2	152.8	153.3	153.7	154.3	154.9	155.7	156.5	157.2	158.0	158.0
115°	176.1	176.6	177.0	177.4	177.8	178.3	179.0	179.6	180.2	180.8	181.6
117.5°	199.3	199.8	200.3	200.8	201.3	201.8	202.1	202.4	202.8	203.0	203.6
120°	213.7	214.3	214.9	215.5	216.2	216.6	216.8	217.0	217.2	217.4	218.0
122.5°	228.3	228.8	229.3	229.8	230.3	230.7	231.0	231.2	231.5	231.8	232.2
125°	248.3	248.9	249.4	249.9	250.6	250.9	251.3	251.6	251.8	252.1	252.3
127.5°	267.7	268.3	268.9	269.4	269.9	270.4	270.7	271.1	271.4	271.7	272.0
130°	279.8	280.4	280.9	281.5	282.0	282.5	282.8	283.0	283.3	283.6	283.8
132.5°	291.4	291.9	292.6	293.1	293.6	294.0	294.3	294.5	294.7	295.0	295.2
135°	309.2	309.5	310.0	310.4	310.8	311.1	311.4	311.7	312.0	312.3	312.5
137.5°	324.2	324.8	325.3	325.8	326.4	326.7	326.9	327.0	327.2	327.3	327.7
140°	334.3	334.7	335.2	335.6	336.0	336.4	336.5	336.7	337.0	337.2	337.4
142.5°	343.7	344.1	344.5	344.9	345.4	345.6	345.9	346.1	346.3	346.5	346.7
145°	356.7	357.2	357.7	358.2	358.6	359.0	359.1	359.3	359.4	359.5	359.7
147.5°	369.0	369.3	369.6	370.0	370.2	370.5	370.7	370.8	371.0	371.0	371.2
150°	376.6	376.7	376.9	377.2	377.4	377.6	377.7	377.8	378.0	378.1	378.3
152.5°	383.3	383.4	383.5	383.6	383.7	383.9	383.9	384.0	384.1	384.1	384.4
155°	393.0	392.8	392.6	392.5	392.4	392.4	392.4	392.4	392.5	392.6	393.0
157.5°	400.4	400.4	400.4	400.3	400.3	400.3	400.2	400.1	400.0	400.0	400.4
160°	404.9	404.8	404.7	404.7	404.7	404.6	404.5	404.4	404.4	404.3	404.7
162.5°	409.2	409.0	408.8	408.7	408.5	408.3	408.2	408.2	408.1	408.0	408.5
165°	414.4	414.1	413.9	413.8	413.5	413.4	413.3	413.2	413.1	413.1	413.7
167.5°	418.4	418.1	417.9	417.6	417.2	417.1	417.1	417.1	417.1	417.1	417.7
170°	420.6	420.4	420.1	419.8	419.5	419.4	419.4	419.4	419.4	419.4	420.0
172.5°	422.1	421.9	421.5	421.2	420.8	420.7	420.7	420.8	420.9	420.9	421.5
175°	424.1	423.7	423.4	423.1	422.8	422.6	422.7	422.8	422.8	422.8	423.4
177.5°	424.6	424.4	424.1	423.8	423.5	423.4	423.5	423.5	423.6	423.7	424.1
180°	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1



TEST NUMBER: P331916-940

CATALOG NUMBER: S123DIP-S560D365U940-4F0-1E-UDD-F

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°	13.4	13.4	13.3	13.3	13.3	13.3	13.4	13.4
90°	8.1	8.4	8.6	8.9	9.0	9.2	9.3	9.5
92.5°	9.0	9.5	9.9	10.2	10.2	10.3	10.3	10.4
95°	10.8	11.2	11.8	11.9	11.9	11.9	11.9	11.9
97.5°	11.2	11.9	12.4	12.7	12.8	12.8	12.9	13.0
100°	11.5	12.0	12.7	12.9	13.0	13.1	13.2	13.2
102.5°	17.3	15.5	13.8	13.0	13.1	13.2	13.4	13.5
105°	44.2	31.8	19.4	13.3	13.5	13.6	13.7	13.8
107.5°	108.3	99.2	90.2	80.9	71.6	62.2	52.9	43.5
110°	137.5	135.2	132.9	126.7	116.7	106.6	96.7	86.7



TEST NUMBER: P331916-940

CATALOG NUMBER: S123DIP-S560D365U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	158.1	158.1	158.2	157.1	155.0	152.9	150.8	148.6
115°	182.3	183.0	183.7	184.1	184.4	184.8	185.0	185.3
117.5°	204.2	204.7	205.3	205.6	205.6	205.7	205.8	205.8
120°	218.6	219.1	219.6	220.0	220.0	220.0	220.0	220.0
122.5°	232.6	233.0	233.4	233.5	233.6	233.7	233.7	233.8
125°	252.4	252.5	252.6	252.8	252.9	253.1	253.2	253.3
127.5°	272.2	272.4	272.7	272.7	272.5	272.4	272.2	272.2
130°	284.2	284.5	284.7	284.8	284.6	284.5	284.4	284.2
132.5°	295.5	295.8	296.0	296.1	295.9	295.7	295.5	295.3
135°	312.7	312.9	313.1	313.1	312.9	312.7	312.5	312.3
137.5°	328.0	328.3	328.7	328.8	328.6	328.5	328.3	328.2
140°	337.7	338.0	338.3	338.3	338.2	338.0	338.0	337.8
142.5°	347.0	347.1	347.4	347.4	347.2	347.0	346.8	346.6
145°	359.8	360.0	360.1	360.2	360.2	360.2	360.2	360.2
147.5°	371.3	371.5	371.7	371.6	371.2	370.9	370.6	370.2
150°	378.4	378.5	378.7	378.6	378.4	378.3	378.0	377.8
152.5°	384.7	385.0	385.2	385.1	384.9	384.5	384.1	383.9
155°	393.3	393.7	394.0	394.0	393.6	393.2	392.7	392.3
157.5°	400.8	401.3	401.7	401.6	401.1	400.6	399.9	399.4
160°	405.1	405.6	406.0	405.9	405.5	404.9	404.5	403.9
162.5°	409.0	409.5	409.9	410.0	409.6	409.1	408.7	408.2
165°	414.2	414.8	415.4	415.4	414.9	414.4	413.9	413.4
167.5°	418.2	418.8	419.4	419.4	418.8	418.2	417.7	417.1
170°	420.5	421.1	421.6	421.6	421.1	420.5	420.0	419.4
172.5°	422.0	422.6	423.1	423.1	422.5	421.9	421.2	420.6
175°	423.8	424.4	424.8	424.8	424.3	423.7	423.1	422.6
177.5°	424.5	425.0	425.4	425.3	424.8	424.3	423.7	423.1
180°	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1

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