

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: P331913-840

Luminaire Tested: **S123DIP-S560D365U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331913-840
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-S560D365U840-4F0-1E-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: 3852.5 lumens
Efficiency: N/A
Efficacy: 140.1 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

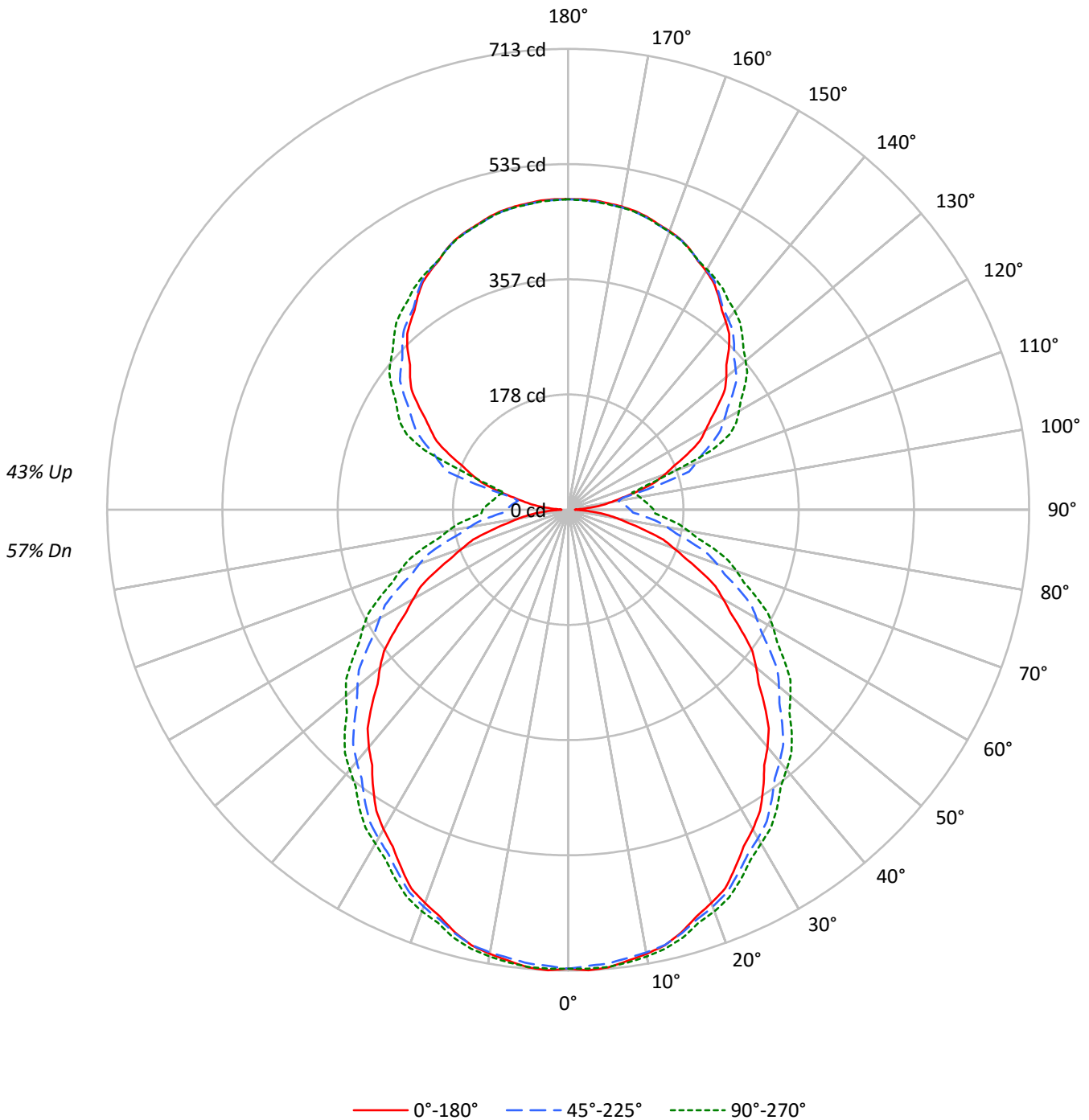
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P331913-840

CATALOG NUMBER: S123DIP-S560D365U840-4F0-1E-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°	7643	7643	7643
5°	7667	7451	7455
10°	7599	7280	7244
15°	7501	7084	7012
20°	7361	6862	6756
25°	7189	6606	6489
30°	7011	6375	6216
35°	6812	6132	6000
40°	6623	5910	5767
45°	6414	5697	5582
50°	6206	5488	5378
55°	5978	5271	5194
60°	5753	5053	5005
65°	5525	4819	4780
70°	5183	4558	4549
75°	4746	4256	4316
80°	4241	3962	4047
85°	3780	3757	3892



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.3	1.7
10°-20°	191.9	5.0
20°-30°	287.0	7.5
30°-40°	342.8	8.9
40°-50°	358.6	9.3
50°-60°	336.5	8.7
60°-70°	281.1	7.3
70°-80°	201.1	5.2
80°-90°	121.3	3.1
90°-100°	92.7	2.4
100°-110°	138.5	3.6
110°-120°	236.8	6.1
120°-130°	275.7	7.2
130°-140°	281.5	7.3
140°-150°	256.4	6.7
150°-160°	205.2	5.3
160°-170°	132.4	3.4
170°-180°	45.6	1.2
0°-30°	546.3	14.2
0°-40°	889.0	23.1
0°-60°	1584.2	41.1
0°-90°	2187.6	56.8
90°-120°	468.1	12.2
90°-150°	1281.6	33.3
90°-180°	1665.0	43.2
0°-180°	3852.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	710	710	710	710	710	
5°	711	709	705	710	710	67
15°	677	679	678	686	685	191
25°	611	619	621	631	631	282
35°	526	538	548	560	563	329
45°	430	449	468	482	489	332
55°	328	354	381	401	408	294
65°	227	257	291	313	322	224
75°	123	160	198	223	233	131
85°	38	77	118	143	152	40
90°	10	52	96	123	132	8
95°	30	47	88	113	122	34
105°	112	134	136	97	102	119
115°	203	216	246	267	276	201
125°	284	288	310	327	333	253
135°	352	353	363	377	381	271
145°	405	406	407	414	417	253
155°	445	444	445	446	444	205
165°	469	468	468	470	468	133
175°	480	479	479	481	479	46
180°	480	480	480	480	480	



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CATALOG NUMBER: S123DIP-S560D365U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1
2.5°	713.3	712.9	712.5	712.0	711.6	710.8	709.7	708.6	707.5	706.4	707.5
5°	710.9	710.5	710.2	709.9	709.5	708.8	707.8	706.8	705.8	704.7	706.1
7.5°	704.0	704.0	704.1	704.2	704.3	703.8	702.8	701.8	700.7	699.7	701.5
10°	697.8	698.1	698.4	698.8	699.1	698.9	698.0	697.2	696.3	695.5	697.2
12.5°	690.3	690.8	691.4	691.8	692.3	692.3	691.7	691.1	690.4	689.8	691.5
15°	676.9	677.4	677.9	678.4	678.9	679.1	678.9	678.7	678.6	678.4	680.1
17.5°	659.8	660.9	662.0	663.0	664.0	664.5	664.4	664.3	664.3	664.2	665.7
20°	647.5	648.5	649.5	650.6	651.6	652.3	652.7	653.0	653.3	653.7	655.2
22.5°	634.5	635.5	636.5	637.6	638.6	639.3	639.9	640.4	640.9	641.3	643.3
25°	611.2	612.9	614.6	616.3	618.0	619.1	619.7	620.2	620.7	621.2	623.4
27.5°	587.6	589.6	591.6	593.5	595.4	596.9	598.0	599.2	600.3	601.4	603.3
30°	570.9	573.1	575.3	577.6	579.9	581.7	583.0	584.4	585.7	587.1	589.3
32.5°	552.3	554.8	557.3	559.9	562.4	564.5	566.3	568.0	569.9	571.7	573.9
35°	526.0	528.8	531.5	534.3	537.0	539.6	541.8	544.0	546.2	548.5	551.1
37.5°	498.2	501.3	504.3	507.5	510.6	513.5	516.2	519.0	521.7	524.5	527.5
40°	479.6	482.7	485.8	488.9	492.0	495.2	498.7	502.1	505.5	509.0	511.9
42.5°	459.2	463.0	466.8	470.5	474.3	478.0	481.6	485.1	488.8	492.3	495.5
45°	430.1	434.2	438.4	442.5	446.6	450.8	455.1	459.4	463.7	468.0	471.3
47.5°	399.6	404.3	409.0	413.6	418.3	423.1	428.1	432.9	437.9	442.8	446.5
50°	379.8	384.7	389.4	394.3	399.1	404.1	409.5	414.9	420.1	425.5	429.4
52.5°	358.8	363.9	369.0	374.1	379.1	384.7	390.5	396.4	402.2	408.2	412.2
55°	328.0	333.7	339.3	345.0	350.7	356.6	362.8	369.0	375.2	381.3	386.0
57.5°	298.0	303.9	309.8	315.7	321.6	328.0	334.8	341.5	348.3	355.1	359.7
60°	276.9	283.2	289.3	295.5	301.6	308.3	315.4	322.4	329.4	336.5	341.3
62.5°	257.1	263.5	269.8	276.1	282.5	289.3	296.8	304.3	311.7	319.2	324.0
65°	226.6	233.4	240.0	246.8	253.5	260.6	268.2	275.7	283.3	290.8	296.0
67.5°	195.7	202.9	210.0	217.0	224.2	231.6	239.3	247.0	254.7	262.4	268.0
70°	174.1	181.5	188.8	196.2	203.6	211.5	219.6	227.9	236.2	244.5	249.9
72.5°	154.2	161.7	169.1	176.4	183.8	191.8	200.3	208.8	217.3	225.9	231.6
75°	123.0	131.1	139.2	147.2	155.3	163.7	172.3	180.9	189.5	198.0	203.7
77.5°	95.7	103.9	112.1	120.2	128.4	136.7	145.4	154.1	162.8	171.5	177.4
80°	76.5	85.0	93.4	101.9	110.3	119.0	127.8	136.8	145.8	154.7	160.6
82.5°	59.9	68.5	77.0	85.5	94.1	102.9	112.0	121.1	130.2	139.3	145.1
85°	37.9	46.5	55.1	63.7	72.3	81.1	90.3	99.4	108.5	117.5	123.4
87.5°	20.6	29.4	38.1	46.8	55.5	64.3	73.3	82.3	91.3	100.3	106.1
90°	10.4	19.6	28.9	38.1	47.3	56.8	66.6	76.3	86.1	95.9	102.1
92.5°	16.1	23.4	30.8	38.2	45.5	53.9	63.4	72.8	82.2	91.6	97.9
95°	30.3	33.7	37.2	40.6	44.1	50.5	59.8	69.1	78.4	87.7	93.5
97.5°	51.3	55.9	60.5	65.1	69.7	73.1	75.5	77.9	80.2	82.5	88.3
100°	67.3	74.3	81.4	88.6	95.6	96.9	92.5	88.0	83.5	79.1	84.7
102.5°	85.5	91.6	97.7	103.8	109.9	110.1	104.3	98.6	92.8	87.1	90.0
105°	112.5	117.5	122.5	127.5	132.5	135.1	135.4	135.6	135.9	136.1	126.9
107.5°	140.3	144.5	148.8	152.9	157.1	163.3	171.5	179.6	187.7	195.8	190.2
110°	158.9	162.5	166.2	170.0	173.7	179.5	187.2	194.9	202.7	210.5	212.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	177.0	180.2	183.3	186.4	189.6	194.8	202.3	209.7	217.2	224.7	229.1
115°	203.4	205.9	208.4	211.0	213.5	218.2	225.1	232.1	238.9	245.8	250.7
117.5°	229.3	231.3	233.1	235.0	236.8	240.9	247.0	253.2	259.3	265.5	270.2
120°	245.0	246.6	248.2	249.7	251.4	255.1	260.9	266.9	272.8	278.7	283.3
122.5°	261.6	262.7	263.7	264.7	265.7	269.1	274.8	280.5	286.2	291.9	296.2
125°	283.6	284.2	284.8	285.4	286.1	289.0	294.4	299.6	305.0	310.2	314.0
127.5°	305.5	306.0	306.4	306.9	307.4	309.8	314.4	318.8	323.4	327.9	331.5
130°	319.2	319.6	320.1	320.6	321.0	323.2	326.9	330.6	334.5	338.2	341.7
132.5°	331.7	332.3	333.0	333.6	334.2	335.9	338.9	341.9	345.0	347.9	351.4
135°	351.6	351.9	352.2	352.5	352.8	354.1	356.3	358.5	360.7	362.9	366.3
137.5°	368.6	369.1	369.5	370.0	370.4	371.3	372.5	373.8	375.1	376.3	379.4
140°	379.4	379.9	380.3	380.8	381.3	381.9	382.6	383.4	384.2	385.0	387.8
142.5°	390.0	390.3	390.6	391.0	391.3	391.6	392.0	392.3	392.6	393.0	395.6
145°	404.8	405.2	405.5	405.9	406.3	406.6	406.7	406.9	407.0	407.2	408.7
147.5°	417.9	418.3	418.6	419.0	419.3	419.6	419.8	419.9	420.1	420.2	420.8
150°	426.5	426.7	426.9	427.2	427.4	427.6	427.8	427.9	428.1	428.2	428.4
152.5°	434.1	434.2	434.3	434.4	434.5	434.7	434.7	434.8	434.9	435.0	435.4
155°	445.0	444.8	444.6	444.5	444.3	444.3	444.4	444.4	444.5	444.6	445.0
157.5°	453.4	453.4	453.4	453.3	453.3	453.3	453.2	453.1	453.0	453.0	453.4
160°	458.6	458.5	458.4	458.3	458.3	458.2	458.1	458.0	458.0	457.9	458.3
162.5°	463.4	463.2	463.0	462.8	462.6	462.4	462.3	462.3	462.2	462.1	462.6
165°	469.3	469.0	468.8	468.6	468.3	468.2	468.1	468.0	467.9	467.9	468.5
167.5°	473.8	473.5	473.2	472.9	472.5	472.4	472.4	472.4	472.4	472.4	473.0
170°	476.4	476.1	475.7	475.4	475.1	474.9	474.9	474.9	474.9	474.9	475.6
172.5°	478.1	477.8	477.4	477.0	476.6	476.5	476.5	476.6	476.7	476.7	477.4
175°	480.3	479.9	479.5	479.2	478.8	478.6	478.7	478.8	478.8	478.9	479.5
177.5°	480.9	480.6	480.3	480.0	479.6	479.5	479.6	479.6	479.7	479.8	480.3
180°	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1
2.5°	708.6	709.7	710.8	711.3	711.1	711.0	710.9	710.7
5°	707.5	708.8	710.2	710.8	710.6	710.4	710.3	710.1
7.5°	703.2	704.9	706.7	707.4	707.2	707.0	706.8	706.6
10°	698.9	700.6	702.4	703.0	702.7	702.4	702.0	701.7
12.5°	693.1	694.6	696.2	696.8	696.5	696.1	695.8	695.5
15°	681.9	683.6	685.3	686.1	685.9	685.7	685.6	685.4
17.5°	667.3	668.8	670.3	671.1	670.8	670.6	670.3	670.0
20°	656.8	658.3	659.8	660.8	660.9	661.1	661.3	661.4
22.5°	645.2	647.2	649.1	650.1	649.9	649.8	649.7	649.6
25°	625.6	627.9	630.2	631.3	631.3	631.3	631.3	631.3
27.5°	605.2	607.1	609.0	610.2	610.3	610.4	610.6	610.7
30°	591.3	593.3	595.4	596.4	596.4	596.4	596.4	596.4
32.5°	576.0	578.2	580.5	581.8	582.2	582.6	583.0	583.4
35°	553.6	556.2	558.8	560.4	561.1	561.8	562.5	563.2
37.5°	530.3	533.2	536.1	538.0	538.5	539.0	539.6	540.1
40°	514.8	517.8	520.7	522.5	523.2	523.9	524.5	525.2
42.5°	498.7	501.9	505.1	507.2	508.2	509.1	510.1	511.0
45°	474.5	477.8	481.1	483.4	484.7	486.1	487.6	488.9
47.5°	450.2	453.8	457.5	459.9	460.9	462.0	463.1	464.1
50°	433.3	437.4	441.3	443.8	445.0	446.3	447.5	448.7
52.5°	416.4	420.4	424.5	427.3	428.8	430.2	431.7	433.2
55°	390.6	395.3	399.9	402.9	404.3	405.7	407.1	408.5
57.5°	364.5	369.1	373.8	376.9	378.5	380.1	381.7	383.3
60°	346.2	350.9	355.8	359.1	361.0	362.8	364.8	366.7
62.5°	328.8	333.7	338.4	341.7	343.5	345.2	347.0	348.7
65°	301.1	306.3	311.5	315.0	316.7	318.4	320.1	321.8
67.5°	273.7	279.3	285.0	288.5	289.9	291.3	292.9	294.3
70°	255.5	260.9	266.5	270.0	271.8	273.5	275.2	276.9
72.5°	237.1	242.8	248.4	252.2	253.9	255.6	257.3	259.0
75°	209.3	215.1	220.8	224.6	226.6	228.7	230.8	232.9
77.5°	183.4	189.3	195.3	199.1	200.8	202.3	203.9	205.5
80°	166.4	172.3	178.1	181.9	183.6	185.3	187.0	188.7
82.5°	151.0	156.7	162.6	166.4	168.1	169.9	171.6	173.3
85°	129.3	135.1	141.0	144.7	146.4	148.1	149.9	151.6
87.5°	112.1	118.0	123.9	127.7	129.5	131.2	133.0	134.7
90°	108.3	114.4	120.6	124.6	126.5	128.4	130.3	132.2
92.5°	104.0	110.3	116.4	120.4	122.1	123.7	125.4	127.1
95°	99.4	105.3	111.2	115.0	116.7	118.5	120.2	121.9
97.5°	94.0	99.8	105.5	109.3	111.1	112.9	114.7	116.5
100°	90.3	95.9	101.6	105.2	107.0	108.9	110.7	112.5
102.5°	92.8	95.7	98.6	101.0	102.8	104.7	106.5	108.5
105°	117.8	108.5	99.3	95.5	97.3	99.0	100.7	102.3
107.5°	184.5	178.7	173.1	165.7	156.6	147.6	138.6	129.5
110°	214.2	216.0	217.8	213.8	203.8	193.9	183.9	173.9



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CATALOG NUMBER: S123DIP-S560D365U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	233.5	237.8	242.3	244.0	243.1	242.3	241.4	240.4
115°	255.7	260.5	265.5	268.8	270.5	272.2	273.9	275.6
117.5°	275.0	279.7	284.5	287.5	288.9	290.3	291.8	293.2
120°	287.9	292.5	297.1	299.9	301.1	302.4	303.6	304.8
122.5°	300.4	304.7	308.9	311.7	313.0	314.3	315.5	316.8
125°	317.8	321.5	325.3	327.9	329.2	330.6	331.9	333.4
127.5°	335.2	338.8	342.4	344.9	345.9	346.9	347.9	348.9
130°	345.4	348.9	352.5	354.8	355.6	356.5	357.4	358.2
132.5°	354.9	358.3	361.7	364.0	364.9	365.8	366.8	367.7
135°	369.6	372.9	376.3	378.2	378.9	379.5	380.1	380.7
137.5°	382.4	385.6	388.7	390.5	391.2	391.9	392.6	393.3
140°	390.7	393.6	396.5	398.3	399.0	399.7	400.4	401.1
142.5°	398.1	400.7	403.2	404.9	405.5	406.2	406.8	407.4
145°	410.2	411.8	413.3	414.4	415.2	415.8	416.5	417.2
147.5°	421.4	421.9	422.5	422.9	423.2	423.4	423.7	423.9
150°	428.6	428.7	428.9	429.0	429.1	429.2	429.3	429.4
152.5°	435.7	436.0	436.3	436.3	436.0	435.7	435.4	435.0
155°	445.5	445.9	446.3	446.2	445.8	445.2	444.7	444.2
157.5°	453.9	454.4	454.9	454.8	454.2	453.6	452.9	452.3
160°	458.8	459.3	459.8	459.7	459.2	458.6	458.1	457.5
162.5°	463.2	463.7	464.2	464.3	463.8	463.3	462.8	462.3
165°	469.1	469.8	470.4	470.4	469.9	469.3	468.8	468.2
167.5°	473.6	474.3	474.9	474.9	474.3	473.6	473.0	472.4
170°	476.3	476.9	477.5	477.5	476.9	476.3	475.6	474.9
172.5°	478.0	478.6	479.2	479.2	478.5	477.8	477.1	476.4
175°	480.0	480.6	481.1	481.1	480.5	479.8	479.2	478.6
177.5°	480.8	481.3	481.8	481.7	481.1	480.5	479.8	479.2
180°	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3

(END OF REPORT)