

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: P331924-840

Luminaire Tested: **S123DIP-S560D585U840-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331924-840
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-S560D585U840-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4529.4 lumens
Efficiency: N/A
Efficacy: 138.1 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

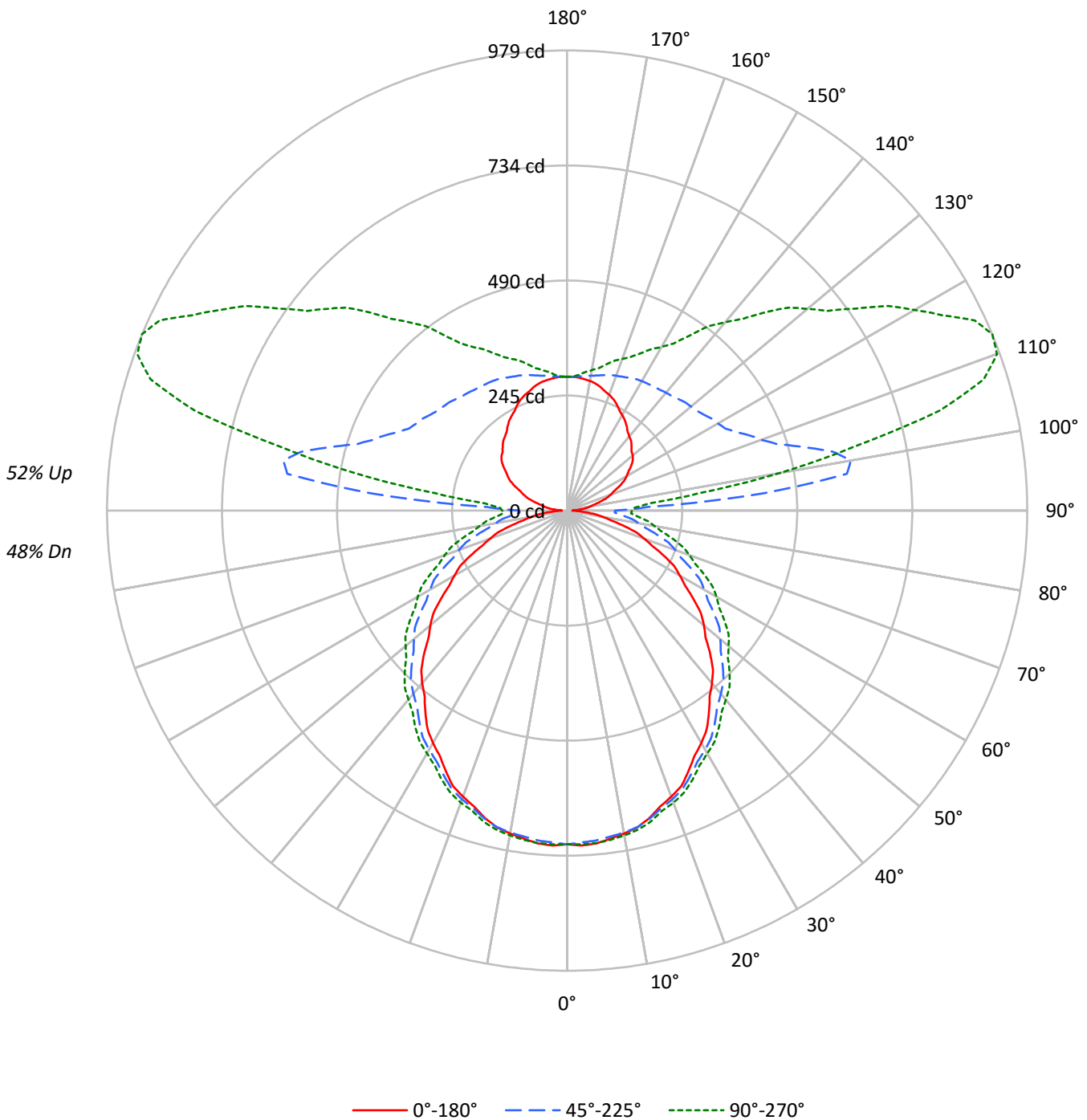
Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331924-840

CATALOG NUMBER: S123DIP-S560D585U840-4F0-1E-UDD-D4

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	107	107	107	107	98	98	98	98	82	82	82	68	68	68	55	55	55	48
1	96	92	87	83	88	84	81	77	71	68	65	58	56	54	47	45	44	39
2	87	79	73	67	80	73	67	63	61	57	53	50	47	45	40	38	36	32
3	79	69	62	56	73	64	57	52	54	49	44	44	41	37	35	33	30	26
4	73	61	53	47	66	57	49	44	48	42	38	39	35	32	32	28	26	22
5	66	54	46	40	61	50	43	37	42	37	32	35	31	27	28	25	22	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	22	20	17
7	56	44	36	30	52	41	33	28	35	29	25	29	24	21	23	20	17	15
8	52	40	32	26	48	37	30	25	31	26	22	26	22	19	21	18	16	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	16	14	12
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	13	11

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



TEST NUMBER: P331924-840

CATALOG NUMBER: S123DIP-S560D585U840-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.3	1.5
10°-20°	191.9	4.2
20°-30°	287.0	6.3
30°-40°	342.8	7.6
40°-50°	358.6	7.9
50°-60°	336.5	7.4
60°-70°	281.1	6.2
70°-80°	201.1	4.4
80°-90°	122.1	2.7
90°-100°	233.6	5.2
100°-110°	503.7	11.1
110°-120°	478.0	10.6
120°-130°	372.9	8.2
130°-140°	286.9	6.3
140°-150°	209.1	4.6
150°-160°	144.3	3.2
160°-170°	84.8	1.9
170°-180°	27.6	0.6
0°-30°	546.3	12.1
0°-40°	889.0	19.6
0°-60°	1584.2	35.0
0°-90°	2188.5	48.3
90°-120°	1215.3	26.8
90°-150°	2084.2	46.0
90°-180°	2341.0	51.7
0°-180°	4529.4	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°	11	55	102	129	138	8
95°	28	103	418	199	175	28
105°	73	124	521	889	819	77
115°	122	161	395	836	957	121
125°	166	197	355	639	749	148
135°	194	231	335	516	597	150
145°	220	251	322	411	454	138
155°	249	269	312	354	369	115
165°	272	280	298	316	322	77
175°	284	284	286	290	290	27
180°	285	285	285	285	285	



TEST NUMBER: P331924-840

CATALOG NUMBER: S123DIP-S560D585U840-4F0-1E-UDD-D4

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°	20.8	29.6	38.4	47.3	56.0	64.9	74.1	83.2	92.3	101.4	107.1
90°	11.2	20.8	30.4	40.5	50.1	59.8	70.3	80.8	91.3	101.8	107.0
92.5°	16.6	27.7	40.1	52.2	64.6	81.2	104.9	138.4	171.3	171.1	155.0
95°	28.1	36.6	49.6	66.0	87.8	117.8	175.1	269.4	372.3	418.2	359.0
97.5°	41.0	47.7	58.6	73.2	94.0	125.3	180.2	285.0	450.5	600.4	642.5
100°	49.6	55.6	65.2	78.8	98.1	127.2	175.5	268.6	428.1	612.8	731.2
102.5°	58.7	64.6	73.1	85.7	103.1	130.1	174.0	254.2	396.8	579.2	732.0
105°	73.0	78.9	86.4	97.5	112.5	136.1	174.7	241.4	357.6	521.1	691.3
107.5°	87.6	92.7	99.6	109.9	123.7	145.5	179.9	236.1	330.9	469.4	624.1
110°	98.0	102.8	108.8	118.2	131.1	152.2	185.0	235.6	319.7	440.0	582.2



TEST NUMBER: P331924-840

CATALOG NUMBER: S123DIP-S560D585U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	108.1	112.4	117.8	126.6	139.0	159.3	190.0	237.1	311.6	418.8	544.7
115°	122.0	126.3	131.8	139.7	151.5	171.2	199.2	240.5	305.5	395.3	499.0
117.5°	136.4	140.4	144.5	151.1	163.3	181.3	208.7	245.8	301.5	378.8	469.0
120°	145.9	148.6	152.3	158.9	170.7	188.3	214.8	250.3	300.4	370.6	452.9
122.5°	154.7	156.8	160.2	166.8	177.8	196.0	221.7	254.8	300.8	364.3	439.1
125°	166.5	167.6	171.1	177.4	188.3	206.4	231.6	261.9	301.4	355.4	420.6
127.5°	176.0	177.6	181.7	187.9	199.9	217.4	241.1	267.9	303.2	348.7	403.7
130°	182.1	183.6	188.6	195.3	207.2	224.5	246.9	272.3	304.5	344.2	394.2
132.5°	186.0	188.1	193.8	202.1	214.1	230.6	251.9	276.0	304.8	340.6	384.9
135°	193.9	196.0	202.3	210.7	222.6	239.0	258.8	280.2	305.2	335.3	372.3
137.5°	201.4	203.7	209.7	218.8	230.7	245.5	263.8	283.5	305.1	330.3	361.5
140°	205.8	208.7	214.5	223.7	235.2	249.8	267.1	284.9	305.0	327.4	354.8
142.5°	211.4	213.7	219.7	227.9	239.2	252.8	269.0	286.0	304.3	324.0	348.3
145°	220.3	221.8	226.8	235.3	244.9	258.0	273.1	288.6	304.7	321.9	341.8
147.5°	228.4	229.4	234.6	242.1	251.5	262.8	276.5	290.4	304.7	319.8	336.0
150°	234.4	235.0	239.6	247.1	255.2	265.5	278.8	290.8	304.7	317.9	332.3
152.5°	240.4	240.5	245.2	251.8	258.8	268.7	280.1	291.9	303.4	315.7	328.7
155°	249.4	249.4	252.9	258.6	265.0	273.1	282.9	292.1	301.8	311.6	323.2
157.5°	256.5	257.0	259.7	264.9	270.2	276.5	284.3	292.7	299.8	308.0	316.9
160°	262.1	262.1	264.4	269.0	273.1	278.8	285.7	292.7	298.9	305.3	312.8
162.5°	266.2	266.2	268.1	271.8	275.3	280.1	286.2	292.2	297.1	302.6	308.6
165°	272.5	271.9	273.1	275.9	278.2	282.3	286.8	290.8	294.4	298.4	303.0
167.5°	277.2	276.5	277.0	279.2	280.8	283.4	286.7	289.9	291.5	294.2	297.6
170°	279.9	278.8	279.3	281.0	282.3	283.4	286.3	288.6	289.7	291.4	294.4
172.5°	281.8	281.0	281.2	282.5	283.2	283.9	286.3	288.1	288.3	289.1	291.1
175°	284.0	283.4	282.9	284.0	284.0	284.6	285.7	286.8	286.3	286.3	287.4
177.5°	285.0	284.6	284.1	284.6	284.6	284.6	285.0	285.9	285.0	284.6	285.0
180°	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6



TEST NUMBER: P331924-840

CATALOG NUMBER: S123DIP-S560D585U840-4F0-1E-UDD-D4

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°	113.1	119.1	125.0	129.1	130.7	132.5	134.3	135.9
90°	113.5	120.0	126.3	131.3	132.4	134.7	137.0	138.1
92.5°	142.4	138.0	139.3	140.0	140.5	140.4	142.5	143.0
95°	294.6	233.1	207.9	190.7	181.5	178.0	175.7	175.1
97.5°	598.1	500.4	431.2	365.8	325.0	300.7	286.9	283.7
100°	756.4	714.7	652.3	573.9	517.4	477.1	456.4	458.6
102.5°	806.3	809.6	775.2	726.7	683.1	651.6	634.5	623.0
105°	816.5	878.9	894.6	882.8	857.9	837.5	820.6	819.3
107.5°	765.3	863.3	918.5	942.0	944.0	938.2	933.4	929.6
110°	718.5	829.0	906.1	949.3	966.7	972.8	973.0	973.2



TEST NUMBER: P331924-840

CATALOG NUMBER: S123DIP-S560D585U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	671.7	784.4	870.0	924.7	955.7	971.6	977.4	979.2
115°	609.7	714.1	802.8	868.4	912.9	939.7	952.6	956.8
117.5°	563.1	653.7	733.9	800.2	846.7	877.0	894.9	900.2
120°	538.1	619.8	692.9	753.6	800.3	833.7	848.8	853.4
122.5°	517.7	591.9	659.7	716.3	757.9	788.1	804.6	810.1
125°	489.9	556.3	615.2	663.7	701.8	728.3	743.9	749.1
127.5°	465.0	524.4	577.7	621.9	655.9	678.7	693.0	697.8
130°	449.2	504.3	554.2	595.5	627.1	648.8	662.0	667.6
132.5°	434.3	485.1	531.7	571.2	601.1	623.0	634.8	639.2
135°	414.0	458.1	498.6	533.4	562.5	580.6	591.9	596.7
137.5°	395.5	431.6	466.7	496.9	521.5	539.9	549.5	553.0
140°	384.4	416.4	446.6	473.0	495.8	512.8	522.9	523.1
142.5°	373.5	401.0	427.3	450.4	470.0	485.1	494.2	494.5
145°	361.6	382.0	401.8	419.5	434.6	447.4	452.7	454.5
147.5°	351.9	367.5	382.7	395.2	406.7	415.5	420.5	421.5
150°	345.6	358.8	370.9	382.0	391.0	397.7	401.5	401.8
152.5°	340.5	351.9	362.6	371.8	378.7	384.6	386.8	386.8
155°	333.0	342.1	350.8	357.7	362.8	367.5	368.6	369.2
157.5°	324.9	332.5	339.3	344.7	349.2	352.6	353.6	353.5
160°	320.2	326.6	332.3	336.4	340.4	343.9	343.9	343.3
162.5°	314.8	320.1	325.5	329.0	331.6	334.7	334.7	334.1
165°	307.6	311.0	315.1	317.9	320.2	322.6	321.9	321.9
167.5°	301.3	304.0	306.3	308.4	309.4	311.0	310.4	310.4
170°	297.2	298.9	301.2	302.4	303.0	304.2	303.6	303.6
172.5°	293.6	294.8	296.6	297.3	297.4	298.6	297.6	297.1
175°	288.6	289.1	290.3	290.3	290.3	290.8	290.3	289.7
177.5°	285.5	285.9	286.4	286.4	285.9	286.4	285.5	285.5
180°	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6

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