

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: P331931-830

Luminaire Tested: **S123DIP-S560D805U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331931-830
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-S560D805U830-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 805 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5254.7 lumens
Efficiency: N/A
Efficacy: 136.8 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: Semi-Indirect

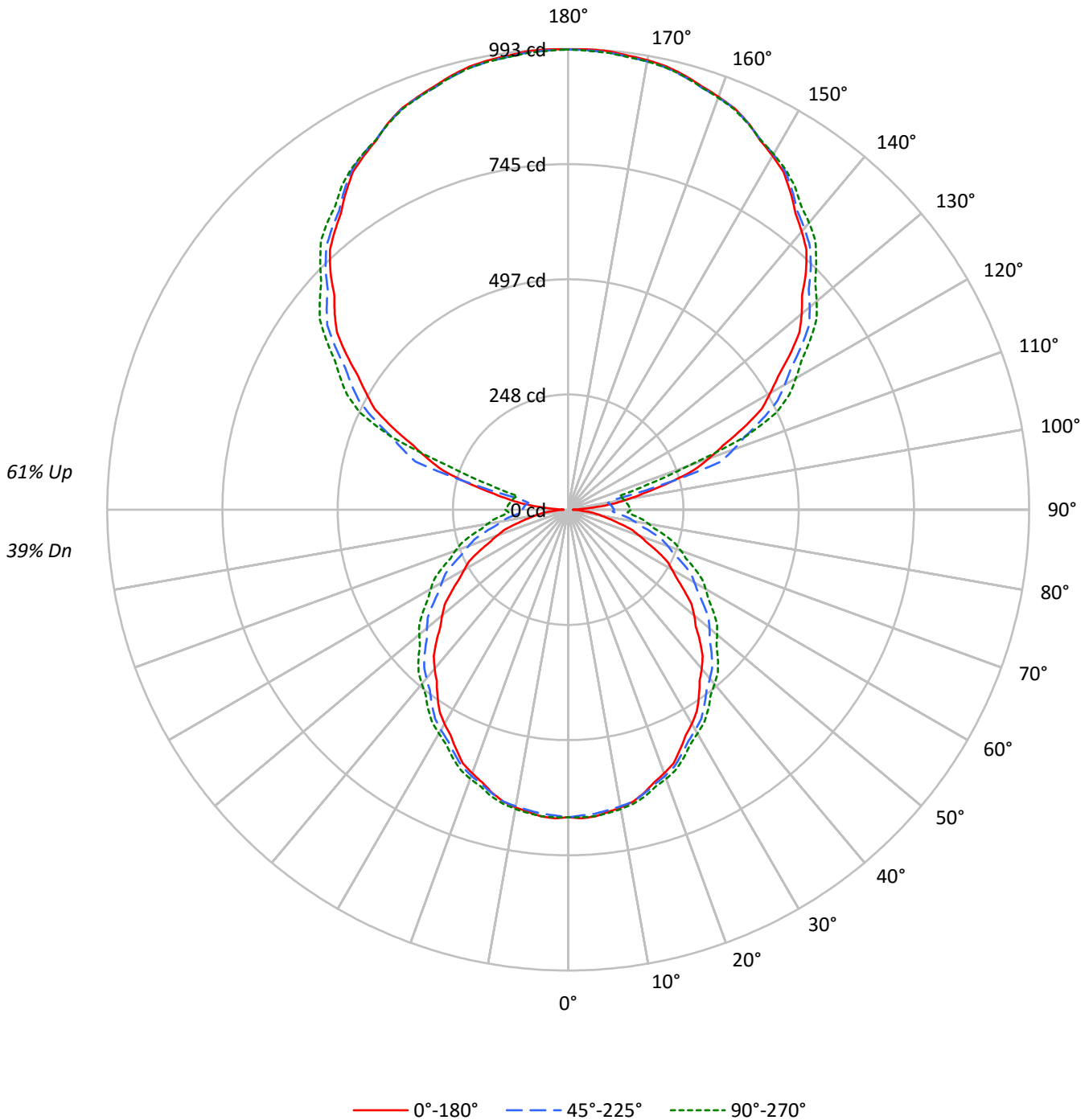
Input Watts (W): 38.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331931-830

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Luminous Intensity Polar Plot





TEST NUMBER: P331931-830

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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	104	104	104	104	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	94	90	86	82	86	82	78	75	66	64	62	52	51	49	39	38	37	31
2	86	78	72	66	77	71	65	61	58	54	50	45	43	40	34	32	31	25
3	78	68	61	55	70	62	56	50	51	46	42	40	36	34	30	28	26	21
4	71	60	52	46	64	55	48	42	45	39	35	35	32	29	27	24	22	18
5	65	53	45	39	59	49	42	36	40	34	30	32	28	25	24	21	19	15
6	60	48	40	34	54	44	36	31	36	30	26	28	24	21	22	19	17	13
7	55	43	35	29	50	39	32	27	32	27	23	26	22	19	20	17	15	12
8	51	39	31	26	46	36	29	24	29	24	20	24	20	17	18	15	13	11
9	48	35	28	23	43	32	26	21	27	22	18	22	18	15	17	14	12	9
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	15	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7134	7134	7134
5°	7156	6954	6959
10°	7093	6795	6761
15°	7001	6612	6544
20°	6871	6405	6306
25°	6709	6166	6056
30°	6544	5951	5803
35°	6359	5723	5601
40°	6181	5515	5382
45°	5986	5318	5210
50°	5793	5121	5019
55°	5578	4919	4848
60°	5369	4716	4670
65°	5156	4499	4462
70°	4837	4254	4245
75°	4430	3973	4029
80°	3958	3698	3779
85°	3521	3508	3633



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.8	1.2
10°-20°	179.1	3.4
20°-30°	267.9	5.1
30°-40°	319.9	6.1
40°-50°	334.7	6.4
50°-60°	314.1	6.0
60°-70°	262.3	5.0
70°-80°	187.7	3.6
80°-90°	114.7	2.2
90°-100°	106.3	2.0
100°-110°	223.5	4.3
110°-120°	447.3	8.5
120°-130°	545.4	10.4
130°-140°	570.5	10.9
140°-150°	527.1	10.0
150°-160°	423.7	8.1
160°-170°	273.4	5.2
170°-180°	94.2	1.8
0°-30°	509.8	9.7
0°-40°	829.7	15.8
0°-60°	1478.6	28.1
0°-90°	2043.3	38.9
90°-120°	777.0	14.8
90°-150°	2420.0	46.1
90°-180°	3211.0	61.1
0°-180°	5254.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	663	663	663	663	663	
5°	664	662	658	663	663	63
15°	632	634	633	640	640	178
25°	570	577	580	589	589	263
35°	491	502	512	522	526	307
45°	401	419	437	450	456	310
55°	306	330	356	375	381	274
65°	212	240	272	292	300	209
75°	115	149	185	208	217	123
85°	35	72	110	133	142	37
90°	10	53	99	126	135	8
95°	53	53	94	121	129	62
105°	225	247	216	112	113	239
115°	416	430	461	485	495	410
125°	583	590	613	629	636	521
135°	724	728	739	753	756	557
145°	835	839	841	848	851	522
155°	919	918	918	921	917	423
165°	969	967	966	971	967	274
175°	992	988	989	993	988	94
180°	992	992	992	992	992	



TEST NUMBER: P331931-830

CATALOG NUMBER: S123DIP-S560D805U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	665.7	665.3	665.0	664.5	664.1	663.5	662.4	661.4	660.3	659.3	660.3
5°	663.5	663.2	662.9	662.6	662.2	661.6	660.6	659.7	658.7	657.7	659.0
7.5°	657.0	657.0	657.1	657.2	657.3	656.9	655.9	655.0	654.0	653.1	654.7
10°	651.3	651.6	651.9	652.2	652.5	652.3	651.5	650.7	649.9	649.1	650.7
12.5°	644.3	644.8	645.3	645.6	646.1	646.1	645.5	645.0	644.4	643.9	645.4
15°	631.8	632.3	632.7	633.2	633.7	633.9	633.7	633.5	633.4	633.2	634.8
17.5°	615.9	616.8	617.8	618.8	619.7	620.2	620.1	620.0	620.0	619.9	621.3
20°	604.4	605.3	606.2	607.2	608.1	608.8	609.2	609.4	609.7	610.1	611.5
22.5°	592.2	593.1	594.1	595.1	596.1	596.7	597.2	597.7	598.1	598.5	600.4
25°	570.4	572.0	573.6	575.2	576.8	577.9	578.3	578.8	579.3	579.8	581.8
27.5°	548.5	550.3	552.1	553.9	555.7	557.1	558.2	559.2	560.2	561.3	563.1
30°	532.8	534.9	537.0	539.1	541.2	542.9	544.1	545.4	546.7	548.0	550.0
32.5°	515.5	517.8	520.2	522.5	524.9	526.9	528.6	530.2	531.9	533.6	535.6
35°	491.0	493.5	496.1	498.7	501.2	503.6	505.7	507.7	509.8	511.9	514.3
37.5°	465.0	467.9	470.7	473.6	476.5	479.3	481.8	484.4	486.9	489.6	492.3
40°	447.6	450.5	453.5	456.3	459.2	462.2	465.4	468.6	471.8	475.0	477.8
42.5°	428.6	432.2	435.6	439.1	442.7	446.1	449.5	452.8	456.2	459.5	462.5
45°	401.4	405.3	409.2	413.0	416.8	420.8	424.8	428.8	432.8	436.8	439.9
47.5°	373.0	377.4	381.7	386.1	390.4	394.9	399.5	404.1	408.7	413.3	416.7
50°	354.5	359.0	363.4	368.0	372.5	377.2	382.2	387.2	392.1	397.1	400.8
52.5°	334.9	339.6	344.4	349.1	353.8	359.0	364.5	369.9	375.4	381.0	384.7
55°	306.1	311.4	316.7	322.0	327.3	332.8	338.7	344.4	350.2	355.9	360.2
57.5°	278.1	283.6	289.2	294.6	300.2	306.1	312.5	318.8	325.1	331.4	335.7
60°	258.4	264.3	270.0	275.8	281.5	287.8	294.4	301.0	307.5	314.1	318.6
62.5°	240.0	245.9	251.8	257.7	263.6	270.0	277.0	284.0	291.0	297.9	302.4
65°	211.5	217.8	224.0	230.4	236.6	243.3	250.3	257.3	264.4	271.5	276.3
67.5°	182.7	189.4	196.0	202.6	209.2	216.1	223.4	230.5	237.7	244.9	250.2
70°	162.5	169.4	176.3	183.1	190.0	197.4	205.0	212.7	220.5	228.2	233.3
72.5°	143.9	150.9	157.8	164.7	171.5	179.0	186.9	194.9	202.8	210.8	216.1
75°	114.8	122.3	129.9	137.4	145.0	152.8	160.8	168.8	176.8	184.8	190.1
77.5°	89.4	97.0	104.6	112.2	119.8	127.6	135.7	143.8	151.9	160.0	165.6
80°	71.4	79.4	87.2	95.1	102.9	111.0	119.3	127.7	136.1	144.4	149.9
82.5°	55.9	63.9	71.8	79.8	87.8	96.0	104.5	113.0	121.5	130.0	135.4
85°	35.3	43.4	51.5	59.5	67.5	75.7	84.3	92.7	101.2	109.7	115.2
87.5°	19.3	27.7	36.0	44.3	52.6	61.1	69.7	78.3	86.9	95.5	101.1
90°	10.1	19.6	29.1	38.6	48.2	58.1	68.3	78.6	89.0	99.2	105.4
92.5°	22.5	29.1	35.8	42.4	49.0	57.2	66.8	76.5	86.1	95.9	102.2
95°	52.9	52.4	51.9	51.6	51.1	55.7	65.3	75.0	84.6	94.3	100.5
97.5°	97.5	100.1	102.6	105.3	107.9	107.2	102.8	98.6	94.3	90.0	96.1
100°	131.0	139.4	147.9	156.3	164.7	159.8	141.7	123.5	105.3	87.1	93.1
102.5°	169.4	176.3	183.3	190.3	197.3	190.4	169.8	149.1	128.5	107.8	108.3
105°	225.4	231.0	236.7	242.3	248.0	246.9	239.0	231.2	223.4	215.6	191.1
107.5°	283.7	288.4	293.1	297.8	302.6	309.4	318.3	327.2	336.0	344.9	327.9
110°	322.6	326.9	331.0	335.3	339.4	345.6	353.9	362.1	370.3	378.5	377.3



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CATALOG NUMBER: S123DIP-S560D805U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	360.4	363.9	367.5	371.1	374.6	380.3	388.3	396.2	404.3	412.2	416.3
115°	415.6	418.4	421.3	424.2	427.2	432.3	439.5	446.8	454.0	461.2	466.7
117.5°	469.5	471.8	474.3	476.6	479.1	483.3	489.6	495.7	501.9	508.0	513.2
120°	502.5	504.7	507.1	509.3	511.6	515.7	521.4	527.2	533.0	538.8	543.8
122.5°	536.7	538.3	540.0	541.6	543.2	546.9	552.5	558.2	563.8	569.5	573.9
125°	582.9	584.1	585.4	586.7	588.1	591.4	596.7	602.0	607.3	612.6	616.3
127.5°	628.2	629.3	630.5	631.7	632.8	635.7	640.4	645.0	649.6	654.2	658.0
130°	656.5	657.7	658.8	660.0	661.1	663.6	667.5	671.4	675.2	679.1	682.8
132.5°	683.1	684.3	685.6	686.9	688.2	690.3	693.4	696.5	699.6	702.7	706.2
135°	724.3	725.1	725.9	726.8	727.6	729.2	731.6	734.1	736.5	739.0	742.3
137.5°	759.5	760.6	761.8	762.9	764.0	765.3	766.6	768.0	769.3	770.6	774.0
140°	782.5	783.5	784.5	785.5	786.5	787.5	788.4	789.4	790.4	791.4	794.4
142.5°	804.4	805.2	806.1	806.9	807.8	808.5	809.1	809.6	810.3	810.9	813.5
145°	834.9	835.8	836.8	837.8	838.8	839.4	839.8	840.1	840.5	840.7	842.4
147.5°	862.9	863.7	864.4	865.2	865.9	866.5	866.8	867.0	867.4	867.7	868.5
150°	880.5	881.1	881.6	882.0	882.5	883.0	883.3	883.6	883.9	884.3	884.6
152.5°	896.5	896.7	896.9	897.2	897.4	897.6	897.8	898.0	898.2	898.4	899.0
155°	918.9	918.6	918.2	917.9	917.6	917.5	917.7	917.8	917.9	918.1	919.0
157.5°	936.2	936.2	936.2	936.1	936.1	936.0	935.9	935.8	935.6	935.4	936.4
160°	946.9	946.7	946.6	946.4	946.2	946.0	945.9	945.7	945.6	945.4	946.4
162.5°	956.9	956.5	956.0	955.6	955.2	954.9	954.7	954.6	954.4	954.2	955.4
165°	969.0	968.5	968.0	967.5	967.0	966.7	966.6	966.4	966.2	966.0	967.3
167.5°	978.5	977.8	977.1	976.5	975.8	975.4	975.4	975.4	975.4	975.4	976.8
170°	983.7	983.1	982.4	981.8	981.1	980.8	980.8	980.8	980.8	980.8	982.1
172.5°	987.2	986.5	985.7	984.9	984.1	983.8	983.9	984.0	984.2	984.3	985.6
175°	991.8	991.0	990.2	989.4	988.5	988.3	988.4	988.5	988.7	988.9	990.0
177.5°	993.0	992.4	991.7	991.1	990.4	990.1	990.2	990.4	990.5	990.6	991.7
180°	991.8	991.8	991.8	991.8	991.8	991.8	991.8	991.8	991.8	991.8	991.8



TEST NUMBER: P331931-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	661.4	662.4	663.5	663.9	663.7	663.6	663.5	663.4
5°	660.3	661.6	662.9	663.5	663.3	663.1	663.0	662.8
7.5°	656.3	657.9	659.6	660.3	660.1	659.9	659.7	659.5
10°	652.3	653.9	655.5	656.1	655.8	655.5	655.2	654.9
12.5°	646.9	648.3	649.8	650.4	650.1	649.7	649.4	649.1
15°	636.4	638.0	639.6	640.4	640.2	640.0	639.9	639.7
17.5°	622.8	624.2	625.7	626.3	626.0	625.8	625.7	625.4
20°	613.0	614.4	615.9	616.7	616.8	617.0	617.2	617.3
22.5°	602.2	604.1	605.9	606.7	606.6	606.5	606.4	606.3
25°	583.9	586.1	588.1	589.2	589.2	589.2	589.2	589.2
27.5°	564.9	566.7	568.4	569.5	569.6	569.7	569.9	570.0
30°	551.9	553.7	555.7	556.7	556.7	556.7	556.7	556.7
32.5°	537.6	539.7	541.8	543.0	543.4	543.8	544.1	544.5
35°	516.7	519.2	521.5	523.0	523.7	524.3	525.0	525.7
37.5°	494.9	497.7	500.4	502.1	502.6	503.0	503.6	504.1
40°	480.5	483.2	486.0	487.7	488.3	489.0	489.6	490.2
42.5°	465.4	468.4	471.5	473.3	474.3	475.1	476.1	476.9
45°	442.9	445.9	449.0	451.2	452.4	453.7	455.1	456.3
47.5°	420.2	423.6	427.0	429.2	430.2	431.2	432.3	433.2
50°	404.4	408.2	411.9	414.2	415.4	416.5	417.6	418.8
52.5°	388.6	392.4	396.2	398.8	400.2	401.5	402.9	404.4
55°	364.6	368.9	373.2	376.1	377.4	378.6	379.9	381.3
57.5°	340.2	344.5	348.8	351.8	353.3	354.8	356.3	357.8
60°	323.1	327.5	332.1	335.2	337.0	338.7	340.4	342.2
62.5°	306.9	311.4	315.8	319.0	320.6	322.2	323.9	325.5
65°	281.1	285.9	290.8	294.0	295.6	297.2	298.8	300.4
67.5°	255.4	260.7	266.0	269.3	270.6	271.9	273.3	274.7
70°	238.5	243.6	248.7	252.0	253.6	255.2	256.8	258.4
72.5°	221.3	226.6	231.9	235.4	237.0	238.6	240.2	241.8
75°	195.4	200.8	206.0	209.6	211.5	213.5	215.4	217.4
77.5°	171.2	176.7	182.3	185.9	187.4	188.8	190.3	191.8
80°	155.3	160.8	166.3	169.8	171.4	173.0	174.6	176.2
82.5°	140.9	146.3	151.7	155.3	156.9	158.5	160.1	161.7
85°	120.6	126.1	131.6	135.1	136.7	138.3	139.9	141.5
87.5°	106.7	112.3	117.9	121.5	123.2	124.8	126.5	128.2
90°	111.5	117.6	123.8	127.7	129.7	131.6	133.6	135.4
92.5°	108.6	115.0	121.3	125.4	127.1	128.7	130.4	132.1
95°	106.6	112.7	118.8	122.6	124.2	125.8	127.4	129.1
97.5°	102.2	108.3	114.3	118.3	120.1	121.9	123.6	125.4
100°	99.1	105.0	110.9	114.8	116.6	118.4	120.2	122.0
102.5°	108.8	109.2	109.7	110.8	112.7	114.7	116.6	118.5
105°	166.5	142.0	117.5	106.2	108.0	109.7	111.5	113.3
107.5°	310.9	294.0	277.0	258.4	237.9	217.5	197.1	176.6
110°	376.1	374.8	373.6	361.9	339.8	317.6	295.5	273.4



TEST NUMBER: P331931-830

CATALOG NUMBER: S123DIP-S560D805U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	420.5	424.6	428.8	429.0	425.6	422.0	418.5	414.9
115°	472.2	477.7	483.1	486.9	488.8	490.8	492.8	494.6
117.5°	518.3	523.4	528.6	531.8	533.2	534.6	535.9	537.3
120°	548.7	553.7	558.7	561.8	563.0	564.1	565.2	566.3
122.5°	578.4	583.0	587.4	590.2	591.5	592.8	594.0	595.3
125°	620.0	623.7	627.4	630.0	631.4	632.8	634.3	635.7
127.5°	661.7	665.3	669.0	671.3	672.0	672.8	673.5	674.4
130°	686.5	690.2	693.9	696.1	696.7	697.3	698.0	698.6
132.5°	709.8	713.4	717.0	719.2	719.7	720.4	721.0	721.6
135°	745.6	749.0	752.4	754.2	754.6	754.9	755.2	755.5
137.5°	777.3	780.6	783.9	785.9	786.4	786.8	787.3	787.8
140°	797.5	800.5	803.6	805.4	805.9	806.3	806.8	807.3
142.5°	816.1	818.9	821.5	823.0	823.4	823.8	824.1	824.4
145°	844.0	845.6	847.3	848.4	848.9	849.6	850.3	850.9
147.5°	869.2	869.9	870.6	870.9	870.7	870.5	870.3	870.2
150°	884.9	885.2	885.5	885.6	885.4	885.3	885.1	885.0
152.5°	899.6	900.1	900.8	900.7	900.0	899.4	898.6	898.0
155°	919.8	920.6	921.4	921.3	920.4	919.4	918.4	917.4
157.5°	937.4	938.3	939.3	939.1	937.9	936.6	935.4	934.1
160°	947.3	948.4	949.3	949.2	948.1	947.0	945.8	944.7
162.5°	956.5	957.6	958.7	958.8	957.7	956.7	955.7	954.7
165°	968.7	970.0	971.3	971.4	970.3	969.0	967.9	966.8
167.5°	978.1	979.4	980.7	980.7	979.4	978.1	976.8	975.4
170°	983.4	984.7	986.0	986.0	984.7	983.4	982.1	980.8
172.5°	986.9	988.3	989.6	989.5	988.1	986.7	985.1	983.7
175°	991.2	992.3	993.4	993.3	992.1	990.8	989.5	988.2
177.5°	992.8	993.8	994.9	994.8	993.4	992.1	990.8	989.5
180°	991.8	991.8	991.8	991.8	991.8	991.8	991.8	991.8

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