

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: P332293-830

Luminaire Tested: **S123RDIP-S560D1025U830-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332293-830  
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: S123RDIP-S560D1025U830-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5511.4 lumens  
Efficiency: N/A  
Efficacy: 123.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

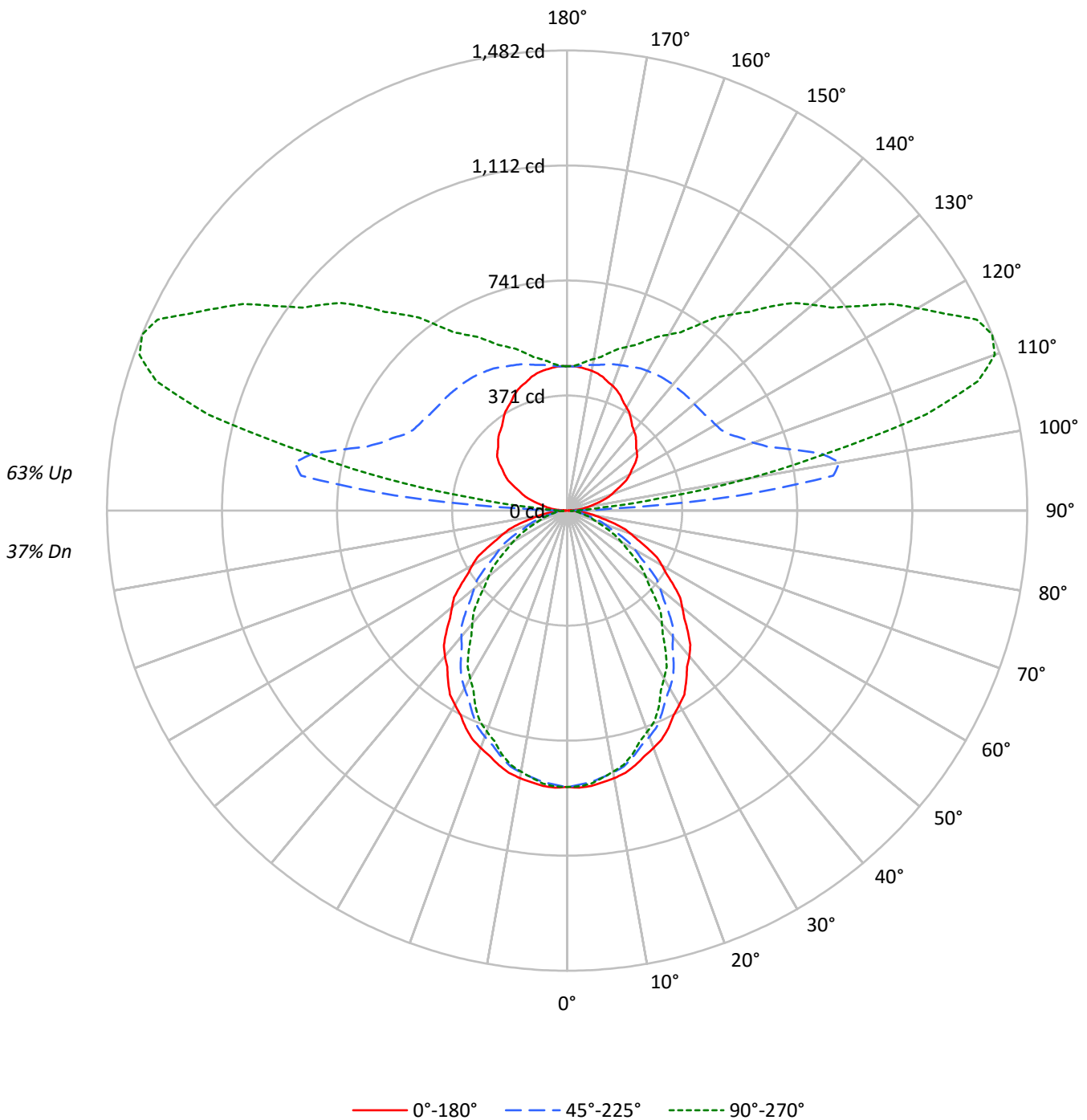
Input Watts (W): 44.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332293-830

CATALOG NUMBER: S123RDIP-S560D1025U830-4F0-1E-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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37
1	95	91	87	84	86	82	79	76	67	65	63	52	51	50	39	38	37	31
2	87	80	74	69	78	72	67	63	59	55	52	46	44	42	35	33	32	27
3	79	70	63	57	71	64	58	53	52	48	44	41	38	36	31	29	27	23
4	72	62	55	49	65	57	50	45	46	41	38	37	33	31	28	26	24	20
5	67	55	48	42	60	51	44	39	41	36	33	33	29	27	25	23	21	17
6	61	50	42	36	55	45	39	34	37	32	28	30	26	23	23	20	18	15
7	57	45	37	32	51	41	34	29	34	29	25	27	23	21	21	18	16	14
8	53	41	33	28	48	37	31	26	31	26	22	25	21	18	19	17	15	12
9	49	37	30	25	44	34	28	23	28	23	20	23	19	17	18	15	13	11
10	46	34	27	22	41	31	25	21	26	21	18	21	17	15	16	14	12	10

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	9582	9582	9582
5°	9619	9487	9541
10°	9565	9368	9335
15°	9461	9149	9052
20°	9321	8874	8668
25°	9175	8567	8291
30°	8983	8211	7762
35°	8784	7857	7276
40°	8604	7436	6674
45°	8363	7024	6132
50°	8100	6553	5526
55°	7833	6016	4960
60°	7584	5440	4336
65°	7264	4819	3713
70°	6861	4047	2999
75°	6276	3182	2824
80°	5597	2820	2591
85°	4730	2495	2322



TEST NUMBER: P332293-830

CATALOG NUMBER: S123RDIP-S560D1025U830-4F0-1E-UDD-F4

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.6	1.5
10°-20°	232.6	4.2
20°-30°	334.9	6.1
30°-40°	377.3	6.8
40°-50°	360.9	6.5
50°-60°	295.6	5.4
60°-70°	199.4	3.6
70°-80°	100.3	1.8
80°-90°	30.1	0.5
90°-100°	258.6	4.7
100°-110°	732.4	13.3
110°-120°	720.5	13.1
120°-130°	574.7	10.4
130°-140°	453.1	8.2
140°-150°	338.2	6.1
150°-160°	235.7	4.3
160°-170°	138.5	2.5
170°-180°	45.1	0.8
0°-30°	651.1	11.8
0°-40°	1028.4	18.7
0°-60°	1684.8	30.6
0°-90°	2014.7	36.6
90°-120°	1711.5	31.1
90°-150°	3077.4	55.8
90°-180°	3497.0	63.5
0°-180°	5511.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	890	890	890	890	890	
5°	890	886	878	884	883	84
15°	849	840	821	817	812	239
25°	772	754	721	706	698	355
35°	668	642	598	568	554	418
45°	549	516	461	422	403	424
55°	417	380	321	280	264	374
65°	285	245	189	155	146	282
75°	151	116	76	70	68	161
85°	38	23	20	19	19	43
90°	2	11	24	26	27	4
95°	32	104	558	163	109	35
105°	109	161	756	1323	1197	116
115°	193	240	579	1269	1456	191
125°	268	317	540	978	1148	238
135°	314	375	532	806	930	243
145°	358	411	526	661	727	225
155°	407	439	509	579	603	187
165°	445	458	487	517	526	125
175°	464	464	468	474	473	44
180°	465	465	465	465	465	



TEST NUMBER: P332293-830

CATALOG NUMBER: S123RDIP-S560D1025U830-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2
2.5°	893.2	892.6	892.1	891.6	891.1	890.0	888.5	886.9	885.4	883.9	885.3
5°	890.2	889.5	888.6	887.9	887.0	885.7	883.7	881.8	879.9	878.0	879.4
7.5°	882.0	881.2	880.2	879.4	878.5	876.8	874.4	871.9	869.3	866.9	867.6
10°	875.1	873.9	872.8	871.7	870.6	868.6	865.7	862.8	859.9	857.1	857.1
12.5°	865.3	864.0	862.7	861.5	860.3	857.9	854.3	850.8	847.3	843.8	843.7
15°	849.0	847.3	845.6	843.8	842.1	838.9	834.4	829.9	825.4	821.0	820.1
17.5°	828.7	826.7	824.6	822.6	820.5	816.6	810.9	805.2	799.5	793.8	792.1
20°	813.7	811.2	808.6	806.0	803.4	799.1	793.0	786.9	780.8	774.7	772.6
22.5°	796.9	794.0	791.1	788.1	785.1	780.4	773.9	767.4	761.0	754.5	751.9
25°	772.5	768.5	764.5	760.5	756.5	750.8	743.4	736.0	728.7	721.3	717.9
27.5°	742.9	738.5	734.1	729.6	725.2	718.9	710.7	702.5	694.3	686.1	681.4
30°	722.7	717.9	713.1	708.3	703.5	696.5	687.6	678.6	669.6	660.6	655.2
32.5°	702.5	697.1	691.6	686.2	680.7	673.3	663.7	654.2	644.7	635.2	629.2
35°	668.5	662.8	657.0	651.3	645.5	637.6	627.6	617.7	607.8	597.9	590.9
37.5°	634.2	627.8	621.4	614.9	608.5	600.0	589.4	578.8	568.2	557.5	549.7
40°	612.3	605.2	598.1	591.1	584.0	574.8	563.5	552.0	540.6	529.2	520.8
42.5°	587.4	580.3	573.3	566.3	559.2	549.8	538.0	526.2	514.4	502.7	493.5
45°	549.4	542.2	535.0	527.8	520.6	510.8	498.4	486.1	473.7	461.4	452.2
47.5°	511.4	503.5	495.6	487.7	479.8	469.7	457.2	444.9	432.5	420.2	410.3
50°	483.7	476.2	468.6	461.1	453.6	443.3	430.3	417.4	404.4	391.3	381.4
52.5°	458.9	450.7	442.5	434.3	426.2	415.7	402.7	389.9	377.0	364.2	353.8
55°	417.4	409.4	401.6	393.7	385.9	375.1	361.5	347.9	334.2	320.6	311.2
57.5°	378.9	370.3	361.7	353.2	344.6	333.5	319.8	306.1	292.4	278.7	269.9
60°	352.3	343.6	334.7	325.8	317.1	305.9	292.7	279.4	266.0	252.7	244.0
62.5°	325.7	317.0	308.1	299.3	290.5	279.4	266.1	252.8	239.4	226.1	218.0
65°	285.2	276.4	267.6	258.7	249.9	239.2	226.7	214.2	201.7	189.2	181.3
67.5°	244.6	235.7	226.8	217.8	209.0	198.5	186.4	174.5	162.5	150.4	144.6
70°	218.0	209.3	200.8	192.1	183.4	173.4	162.2	151.0	139.8	128.6	122.9
72.5°	191.4	182.9	174.4	165.9	157.3	148.0	137.8	127.5	117.3	107.2	102.5
75°	150.9	143.2	135.5	127.8	120.1	111.8	103.0	94.2	85.4	76.5	74.9
77.5°	114.0	107.0	100.0	93.0	86.1	79.7	74.1	68.4	62.7	57.0	56.2
80°	90.3	83.7	77.1	70.5	63.9	59.0	55.6	52.2	48.8	45.5	45.0
82.5°	67.8	62.0	56.4	50.7	45.0	41.4	39.8	38.3	36.7	35.1	34.6
85°	38.3	34.8	31.2	27.7	24.1	22.1	21.7	21.2	20.7	20.2	19.9
87.5°	14.2	13.2	12.2	11.3	10.3	10.0	10.6	11.1	11.7	12.3	11.9
90°	1.9	3.8	5.7	8.5	10.4	12.3	15.1	17.9	20.7	23.6	22.6
92.5°	11.7	17.3	25.3	32.5	40.4	54.4	79.0	119.5	159.2	144.7	109.1
95°	32.0	34.8	45.1	61.2	85.6	122.3	202.3	342.4	496.7	557.9	452.5
97.5°	54.6	55.5	63.6	77.5	101.6	141.3	217.7	375.8	633.0	864.6	925.0
100°	69.7	70.6	77.2	90.3	112.9	149.6	215.5	354.7	602.1	891.0	1076.3
102.5°	85.4	87.1	92.9	105.4	125.7	159.4	218.5	336.6	556.9	842.1	1083.8
105°	109.1	112.0	117.6	128.9	146.8	176.0	226.8	323.7	501.4	756.4	1026.4
107.5°	134.3	137.1	142.6	153.7	170.5	197.6	242.1	322.7	466.1	680.8	926.0
110°	152.4	155.2	159.9	170.3	186.2	212.6	255.0	326.5	452.5	637.9	862.7



TEST NUMBER: P332293-830

CATALOG NUMBER: S123RDIP-S560D1025U830-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	169.0	171.8	176.5	186.8	202.8	228.5	267.8	334.0	445.0	609.3	807.8
115°	192.8	196.6	202.3	211.7	227.7	253.1	288.8	346.2	442.1	578.6	741.4
117.5°	216.8	221.1	225.8	234.4	252.3	275.9	311.2	362.4	443.8	560.5	701.3
120°	233.3	236.1	240.8	250.2	268.2	291.6	325.6	374.5	446.9	552.2	680.2
122.5°	247.6	250.4	255.1	265.3	282.5	307.5	340.5	385.8	452.1	547.0	662.9
125°	268.2	270.0	275.7	286.0	303.9	329.3	362.2	403.6	460.1	540.1	640.7
127.5°	283.8	286.5	293.5	304.1	323.9	349.2	381.1	418.3	469.1	536.7	621.1
130°	293.5	296.3	304.8	316.1	335.8	361.3	392.3	428.1	475.1	534.4	610.6
132.5°	301.0	304.6	313.9	327.4	347.1	371.8	402.1	437.2	479.7	533.7	600.8
135°	314.2	318.0	328.4	342.4	362.2	387.6	416.8	448.7	486.4	532.5	588.1
137.5°	326.7	330.6	340.7	355.8	375.4	398.9	427.0	457.4	490.9	530.5	576.9
140°	335.0	339.6	349.0	364.1	383.0	406.4	433.8	461.9	493.9	529.7	570.1
142.5°	343.9	347.9	358.1	371.6	390.4	412.5	439.0	466.5	496.2	528.2	564.1
145°	358.4	361.3	369.8	383.9	399.8	421.5	445.9	471.4	497.7	525.9	556.0
147.5°	373.2	374.8	383.1	395.3	410.8	429.2	451.6	474.4	497.7	522.4	548.1
150°	383.0	383.9	391.3	403.6	416.8	433.8	455.3	475.1	497.7	519.3	542.8
152.5°	392.7	392.9	400.4	411.1	422.8	439.0	457.6	476.6	495.4	515.6	536.9
155°	407.4	407.4	413.0	422.4	432.8	445.9	461.9	477.0	492.9	509.0	527.8
157.5°	419.1	419.8	424.3	432.6	441.4	451.6	464.4	478.0	489.8	503.1	517.6
160°	428.1	428.1	431.9	439.3	445.9	455.3	466.7	478.0	488.3	498.6	510.9
162.5°	434.9	434.9	437.9	443.8	449.7	457.6	467.4	477.2	485.3	494.1	504.1
165°	445.0	444.0	445.9	450.6	454.4	461.0	468.5	475.1	480.8	487.4	494.8
167.5°	452.7	451.6	452.5	456.1	458.7	462.9	468.3	473.6	476.3	480.6	486.1
170°	457.2	455.3	456.3	459.1	461.0	462.9	467.6	471.4	473.3	476.1	480.8
172.5°	460.2	459.1	459.3	461.4	462.5	463.6	467.6	470.6	471.0	472.3	475.5
175°	463.8	462.9	461.9	463.8	463.8	464.8	466.7	468.5	467.6	467.6	469.5
177.5°	465.5	464.8	464.0	464.8	464.8	464.8	465.5	467.0	465.5	464.8	465.5
180°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8



TEST NUMBER: P332293-830

CATALOG NUMBER: S123RDIP-S560D1025U830-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2
2.5°	886.7	888.2	889.6	890.1	889.9	889.6	889.4	889.1
5°	880.8	882.3	883.7	884.3	884.0	883.6	883.4	883.0
7.5°	868.5	869.2	870.1	870.2	869.6	869.1	868.6	868.0
10°	857.3	857.5	857.6	857.3	856.6	855.7	855.0	854.1
12.5°	843.6	843.5	843.4	842.8	841.9	840.9	840.1	839.1
15°	819.4	818.5	817.7	816.7	815.6	814.5	813.4	812.3
17.5°	790.4	788.7	786.9	785.3	783.6	781.9	780.2	778.6
20°	770.5	768.5	766.4	764.4	762.4	760.5	758.6	756.7
22.5°	749.3	746.7	744.1	741.9	740.1	738.3	736.5	734.7
25°	714.5	711.1	707.8	705.2	703.5	701.7	699.9	698.1
27.5°	676.7	672.0	667.3	663.6	660.9	658.3	655.5	652.8
30°	649.7	644.2	638.9	634.8	632.3	629.7	627.1	624.5
32.5°	623.3	617.3	611.3	607.0	604.4	601.6	598.9	596.3
35°	584.0	577.1	570.2	565.3	562.4	559.6	556.7	553.7
37.5°	541.9	534.0	526.2	520.6	517.0	513.4	509.8	506.2
40°	512.6	504.2	495.9	489.8	486.2	482.5	478.8	475.0
42.5°	484.5	475.3	466.2	460.0	456.7	453.4	450.1	446.8
45°	443.1	433.9	424.8	418.3	414.4	410.6	406.7	402.8
47.5°	400.3	390.4	380.4	373.7	370.3	366.8	363.4	360.0
50°	371.5	361.5	351.6	344.7	341.0	337.3	333.7	330.0
52.5°	343.6	333.2	322.8	316.0	312.7	309.4	306.1	302.8
55°	302.0	292.7	283.3	277.1	273.9	270.7	267.5	264.3
57.5°	261.1	252.3	243.6	237.8	235.1	232.3	229.6	226.9
60°	235.4	226.7	218.0	212.4	209.6	206.9	204.2	201.4
62.5°	209.8	201.7	193.5	188.0	185.2	182.3	179.5	176.6
65°	173.4	165.6	157.7	152.9	151.2	149.4	147.6	145.8
67.5°	138.7	132.8	127.0	123.1	121.2	119.3	117.4	115.6
70°	117.3	111.7	106.0	102.4	100.6	98.9	97.1	95.3
72.5°	97.9	93.4	88.8	86.1	85.4	84.6	83.9	83.1
75°	73.3	71.7	70.1	69.2	68.8	68.5	68.1	67.9
77.5°	55.3	54.5	53.5	53.0	52.7	52.3	52.0	51.7
80°	44.5	44.0	43.5	43.2	42.9	42.5	42.2	41.8
82.5°	34.1	33.6	33.2	32.9	32.8	32.8	32.7	32.6
85°	19.6	19.2	18.9	18.8	18.8	18.8	18.8	18.8
87.5°	12.0	12.0	12.1	12.3	12.0	12.1	12.2	11.8
90°	23.6	24.5	25.4	27.2	26.3	27.2	28.2	27.2
92.5°	79.2	62.9	55.5	50.6	48.9	46.1	47.0	45.3
95°	338.7	229.6	179.7	145.8	128.0	119.5	112.9	109.1
97.5°	844.3	676.3	554.9	442.3	373.0	330.6	305.2	297.1
100°	1109.3	1033.0	922.9	789.4	694.4	625.7	589.0	589.9
102.5°	1197.3	1194.9	1130.7	1046.0	972.0	917.7	887.0	865.3
105°	1223.0	1317.2	1335.0	1310.6	1267.2	1231.5	1201.5	1196.7
107.5°	1149.0	1301.7	1384.1	1417.7	1418.4	1406.4	1396.2	1387.5
110°	1078.2	1251.3	1369.8	1435.7	1462.1	1469.6	1467.7	1465.8





TEST NUMBER: P332293-830

CATALOG NUMBER: S123RDIP-S560D1025U830-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1008.1	1185.1	1317.9	1402.6	1450.8	1474.0	1481.2	1481.6
115°	915.4	1079.1	1217.4	1319.9	1390.5	1431.9	1450.8	1455.5
117.5°	848.3	989.6	1113.7	1217.8	1291.4	1338.8	1365.9	1372.2
120°	812.8	939.9	1052.8	1147.8	1222.1	1274.8	1297.4	1303.1
122.5°	785.0	900.0	1004.7	1092.9	1159.0	1206.4	1231.1	1238.3
125°	748.0	850.6	940.8	1016.1	1076.3	1117.7	1141.2	1147.8
127.5°	715.6	807.0	888.5	957.0	1010.6	1046.0	1067.2	1073.3
130°	695.3	780.0	856.1	920.1	970.0	1003.9	1023.6	1031.1
132.5°	676.5	754.3	825.3	886.3	933.1	967.0	984.5	989.8
135°	651.0	717.8	779.0	832.6	878.7	906.9	923.9	930.5
137.5°	627.9	682.7	735.4	781.8	820.6	849.2	863.5	867.8
140°	614.3	662.3	707.5	748.0	783.7	810.0	825.1	824.2
142.5°	601.5	642.8	681.9	717.1	747.6	770.9	784.5	783.5
145°	586.2	617.2	647.2	674.6	698.0	717.8	725.4	727.3
147.5°	573.5	598.1	622.5	641.9	659.7	673.1	680.2	681.0
150°	564.5	586.2	605.9	623.8	637.9	648.2	653.8	653.8
152.5°	556.2	574.9	592.4	607.2	618.3	627.9	631.3	631.3
155°	543.8	558.8	573.0	584.3	592.8	600.2	602.1	603.0
157.5°	530.7	543.2	554.1	563.0	570.3	576.0	577.5	577.3
160°	523.1	533.5	542.8	549.4	556.0	561.7	561.7	560.7
162.5°	514.1	522.9	531.6	537.4	541.8	546.6	546.6	545.6
165°	502.4	508.0	514.6	519.3	523.1	526.9	525.9	525.9
167.5°	492.2	496.5	500.3	503.7	505.4	508.0	507.1	507.1
170°	485.5	488.3	492.0	493.9	494.8	496.7	495.8	495.8
172.5°	479.5	481.5	484.6	485.7	485.9	487.8	486.1	485.3
175°	471.4	472.3	474.2	474.2	474.2	475.1	474.2	473.3
177.5°	466.3	467.0	467.8	467.8	467.0	467.8	466.3	466.3
180°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8

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