

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: P332297-830

Luminaire Tested: **S123RDIP-S560D1195U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332297-830
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: S123RDIP-S560D1195U830-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6510.1 lumens
Efficiency: N/A
Efficacy: 131.8 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

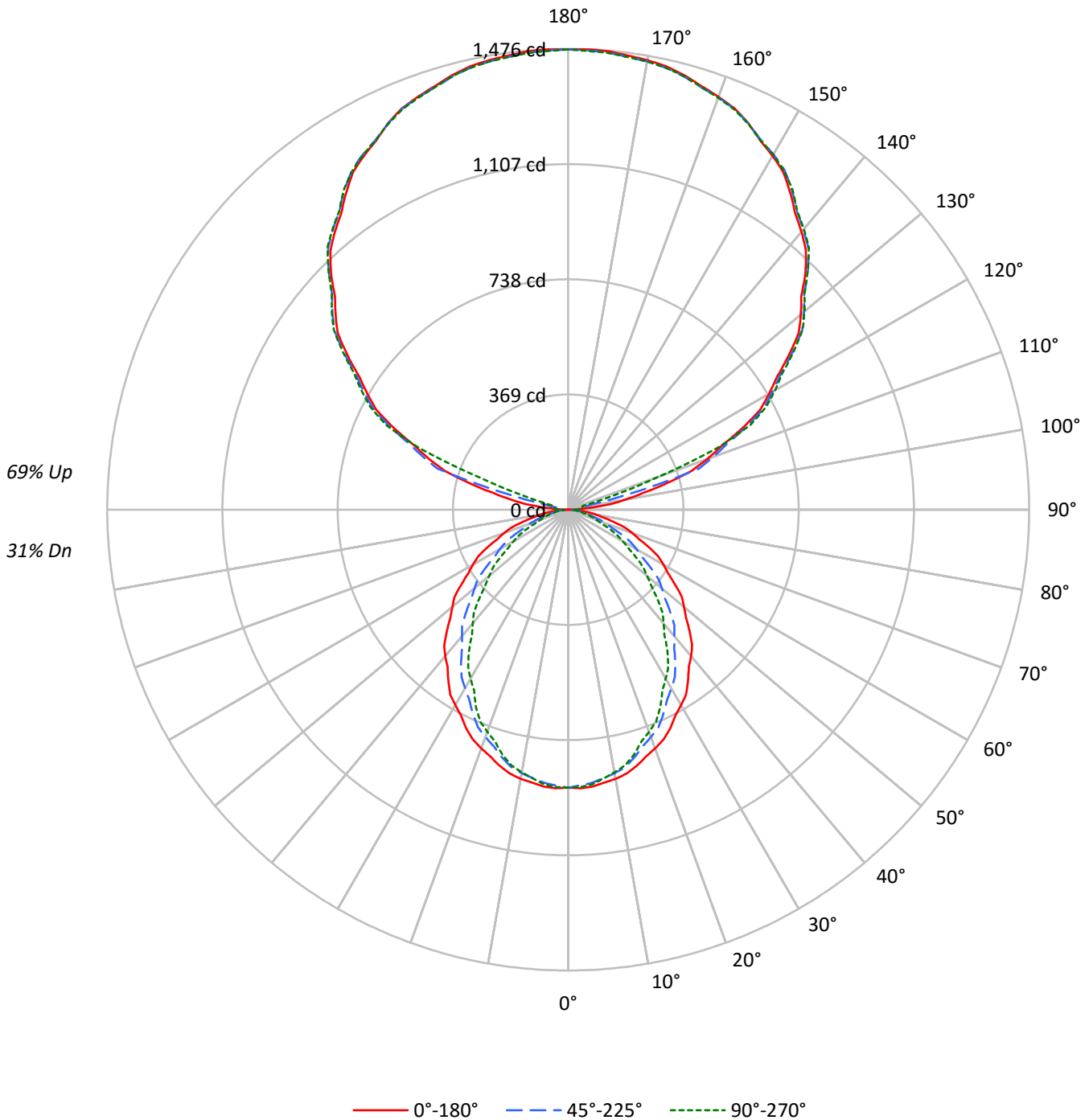
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	92	92	92	92	73	73	73	55	55	55	39	39	39	31
1	94	90	86	83	84	81	78	75	64	62	60	49	47	46	34	34	33	26
2	85	78	73	68	77	71	66	62	56	53	50	43	41	39	30	29	28	22
3	78	69	62	57	70	62	56	52	50	46	42	38	35	33	27	25	24	19
4	71	61	54	48	64	55	49	44	44	40	36	34	31	28	24	22	21	17
5	65	54	47	41	59	49	43	38	40	35	31	30	27	25	22	20	18	15
6	60	49	41	35	54	44	37	33	36	31	27	28	24	21	20	18	16	13
7	56	44	36	31	50	40	33	29	32	27	24	25	22	19	18	16	14	12
8	52	40	32	27	46	36	30	25	29	24	21	23	19	17	17	15	13	10
9	48	36	29	24	43	33	27	22	27	22	19	21	18	15	16	13	12	9
10	45	33	26	22	40	30	24	20	25	20	17	19	16	14	14	12	11	9

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



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.6	1.3
10°-20°	232.6	3.6
20°-30°	334.9	5.1
30°-40°	377.3	5.8
40°-50°	360.9	5.5
50°-60°	295.6	4.5
60°-70°	199.4	3.1
70°-80°	100.3	1.5
80°-90°	30.7	0.5
90°-100°	53.6	0.8
100°-110°	255.4	3.9
110°-120°	613.5	9.4
120°-130°	781.2	12.0
130°-140°	834.7	12.8
140°-150°	780.5	12.0
150°-160°	629.6	9.7
160°-170°	406.3	6.2
170°-180°	140.0	2.2
0°-30°	651.1	10.0
0°-40°	1028.4	15.8
0°-60°	1684.8	25.9
0°-90°	2015.2	31.0
90°-120°	922.4	14.2
90°-150°	3318.8	51.0
90°-180°	4495.0	69.0
0°-180°	6510.1	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°	1	12	26	31	33	5
95°	67	25	34	41	42	83
105°	326	332	240	57	48	346
115°	612	619	629	639	644	604
125°	863	871	876	878	880	770
135°	1074	1081	1085	1088	1085	827
145°	1240	1247	1249	1252	1252	776
155°	1366	1364	1364	1369	1363	629
165°	1440	1437	1436	1443	1437	407
175°	1474	1469	1470	1476	1468	140
180°	1474	1474	1474	1474	1474	



TEST NUMBER: P332297-830

CATALOG NUMBER: S123RDIP-S560D1195U830-4F0-1E-UDD-F

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°	14.0	13.2	12.3	11.3	10.4	10.3	10.8	11.5	12.2	12.7	12.8
90°	1.1	3.5	5.9	8.4	10.8	13.7	16.8	20.0	23.1	26.3	27.2
92.5°	20.4	19.7	19.0	18.3	17.6	18.5	20.9	23.3	25.6	28.0	29.6
95°	66.8	56.8	46.8	36.9	26.9	23.3	25.9	28.6	31.3	33.9	35.6
97.5°	134.2	129.8	125.3	120.8	116.3	105.4	87.8	70.3	52.8	35.3	37.2
100°	185.0	189.9	194.8	199.6	204.5	187.9	150.1	112.1	74.1	36.1	38.1
102.5°	242.9	246.4	249.9	253.4	256.9	237.9	196.4	155.0	113.5	72.0	66.0
105°	326.3	329.0	331.7	334.3	337.1	327.4	305.5	283.6	261.7	239.8	196.7
107.5°	414.3	416.5	418.7	420.8	422.9	425.7	429.2	432.6	436.1	439.6	407.9
110°	473.1	475.0	476.9	478.9	480.9	483.1	485.9	488.5	491.2	493.9	485.9



TEST NUMBER: P332297-830

CATALOG NUMBER: S123RDIP-S560D1195U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	529.1	530.8	532.6	534.4	536.1	538.4	541.0	543.8	546.4	549.0	549.2
115°	612.2	613.6	615.0	616.5	617.9	619.8	622.0	624.2	626.4	628.6	631.0
117.5°	692.5	694.3	696.1	698.0	699.7	701.2	702.3	703.4	704.6	705.7	707.6
120°	742.4	744.6	746.9	749.0	751.2	752.7	753.4	754.1	754.9	755.5	757.5
122.5°	793.2	795.0	796.8	798.6	800.5	801.8	802.8	803.7	804.6	805.5	806.9
125°	862.9	864.9	866.8	868.7	870.7	872.1	873.1	874.1	875.1	876.0	876.6
127.5°	930.4	932.3	934.2	936.2	938.1	939.7	940.8	942.1	943.2	944.3	945.2
130°	972.4	974.4	976.3	978.3	980.1	981.7	982.6	983.6	984.6	985.5	986.6
132.5°	1012.7	1014.6	1016.6	1018.5	1020.5	1021.8	1022.7	1023.4	1024.2	1025.0	1026.0
135°	1074.2	1075.7	1077.1	1078.6	1080.1	1081.3	1082.3	1083.3	1084.2	1085.2	1085.9
137.5°	1126.8	1128.7	1130.5	1132.4	1134.3	1135.4	1136.0	1136.5	1137.0	1137.6	1138.7
140°	1161.9	1163.3	1164.8	1166.2	1167.7	1168.8	1169.5	1170.3	1171.0	1171.7	1172.7
142.5°	1194.3	1195.7	1197.2	1198.6	1200.1	1201.2	1201.9	1202.7	1203.4	1204.1	1204.9
145°	1239.6	1241.3	1243.0	1244.7	1246.4	1247.5	1248.0	1248.5	1249.0	1249.4	1249.9
147.5°	1282.3	1283.5	1284.6	1285.6	1286.8	1287.6	1288.1	1288.5	1289.0	1289.5	1290.1
150°	1308.6	1309.3	1310.0	1310.8	1311.5	1312.1	1312.6	1313.1	1313.6	1314.1	1314.6
152.5°	1332.3	1332.6	1332.9	1333.2	1333.6	1333.9	1334.2	1334.5	1334.8	1335.1	1336.0
155°	1365.6	1365.1	1364.5	1364.0	1363.6	1363.5	1363.7	1364.0	1364.2	1364.4	1365.6
157.5°	1391.4	1391.3	1391.3	1391.2	1391.2	1391.0	1390.8	1390.5	1390.3	1390.1	1391.6
160°	1407.1	1406.9	1406.7	1406.5	1406.2	1405.9	1405.7	1405.4	1405.2	1405.0	1406.5
162.5°	1422.0	1421.4	1420.8	1420.1	1419.5	1419.1	1418.8	1418.6	1418.3	1418.1	1419.8
165°	1440.0	1439.3	1438.5	1437.8	1437.1	1436.6	1436.3	1436.1	1435.9	1435.6	1437.6
167.5°	1454.1	1453.0	1452.1	1451.1	1450.1	1449.6	1449.6	1449.6	1449.6	1449.6	1451.6
170°	1461.9	1460.9	1460.0	1459.0	1458.0	1457.5	1457.5	1457.5	1457.5	1457.5	1459.4
172.5°	1467.2	1466.0	1464.8	1463.7	1462.4	1462.0	1462.2	1462.4	1462.5	1462.7	1464.7
175°	1473.9	1472.7	1471.5	1470.3	1469.0	1468.6	1468.9	1469.0	1469.3	1469.5	1471.3
177.5°	1475.7	1474.7	1473.8	1472.8	1471.8	1471.4	1471.6	1471.8	1472.0	1472.2	1473.8
180°	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9



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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°	12.9	13.0	13.0	13.0	13.0	13.0	12.9	12.9
90°	28.2	29.2	30.2	30.9	31.4	31.9	32.3	32.9
92.5°	31.1	32.7	34.3	35.2	35.4	35.8	36.1	36.4
95°	37.3	39.0	40.7	41.6	41.6	41.6	41.6	41.6
97.5°	39.1	41.1	43.1	44.1	44.4	44.7	44.9	45.1
100°	40.1	41.9	43.9	45.1	45.2	45.5	45.7	46.0
102.5°	59.9	53.9	47.9	45.1	45.5	46.0	46.5	46.8
105°	153.6	110.6	67.5	46.3	46.8	47.2	47.7	48.2
107.5°	376.4	344.8	313.2	281.2	248.7	216.2	183.8	151.4
110°	477.8	469.8	461.8	440.4	405.6	370.7	335.9	301.1



TEST NUMBER: P332297-830

CATALOG NUMBER: S123RDIP-S560D1195U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	549.3	549.5	549.7	546.0	538.7	531.3	524.0	516.6
115°	633.4	635.8	638.3	640.0	640.9	642.0	642.9	643.9
117.5°	709.5	711.5	713.4	714.5	714.7	714.9	715.1	715.3
120°	759.5	761.4	763.4	764.3	764.3	764.3	764.3	764.3
122.5°	808.2	809.6	811.0	811.7	811.9	812.1	812.4	812.6
125°	877.0	877.5	878.0	878.4	878.9	879.5	880.0	880.4
127.5°	945.9	946.7	947.4	947.6	947.2	946.7	946.2	945.7
130°	987.5	988.4	989.5	989.7	989.2	988.7	988.3	987.8
132.5°	1026.9	1027.9	1028.9	1029.0	1028.3	1027.7	1027.0	1026.2
135°	1086.7	1087.4	1088.2	1088.2	1087.4	1086.7	1085.9	1085.2
137.5°	1139.9	1141.0	1142.2	1142.6	1142.1	1141.6	1141.1	1140.6
140°	1173.7	1174.6	1175.6	1175.8	1175.4	1174.9	1174.4	1173.9
142.5°	1205.7	1206.5	1207.2	1207.3	1206.6	1205.9	1205.2	1204.6
145°	1250.5	1250.9	1251.4	1251.6	1251.6	1251.6	1251.6	1251.6
147.5°	1290.5	1291.0	1291.5	1291.2	1290.1	1288.9	1287.8	1286.7
150°	1315.0	1315.5	1316.0	1315.9	1315.1	1314.5	1313.7	1313.0
152.5°	1336.8	1337.8	1338.6	1338.5	1337.4	1336.2	1335.1	1334.0
155°	1366.9	1368.1	1369.3	1369.1	1367.7	1366.3	1364.8	1363.4
157.5°	1393.0	1394.4	1395.9	1395.7	1393.8	1391.9	1390.0	1388.1
160°	1407.9	1409.3	1410.8	1410.7	1409.0	1407.3	1405.5	1403.8
162.5°	1421.4	1423.1	1424.7	1424.7	1423.2	1421.7	1420.2	1418.7
165°	1439.5	1441.4	1443.4	1443.5	1441.8	1440.1	1438.4	1436.7
167.5°	1453.5	1455.5	1457.5	1457.5	1455.5	1453.5	1451.6	1449.6
170°	1461.4	1463.4	1465.3	1465.3	1463.4	1461.4	1459.4	1457.5
172.5°	1466.7	1468.6	1470.6	1470.5	1468.3	1466.2	1464.1	1461.9
175°	1473.0	1474.7	1476.4	1476.2	1474.3	1472.3	1470.5	1468.5
177.5°	1475.3	1476.9	1478.4	1478.2	1476.3	1474.3	1472.3	1470.5
180°	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9

(END OF REPORT)