

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: P332298

Luminaire Tested: **S123RDIP-S560D1195U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332298
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S560D1195U835-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6236.1 lumens
Efficiency: N/A
Efficacy: 126.2 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

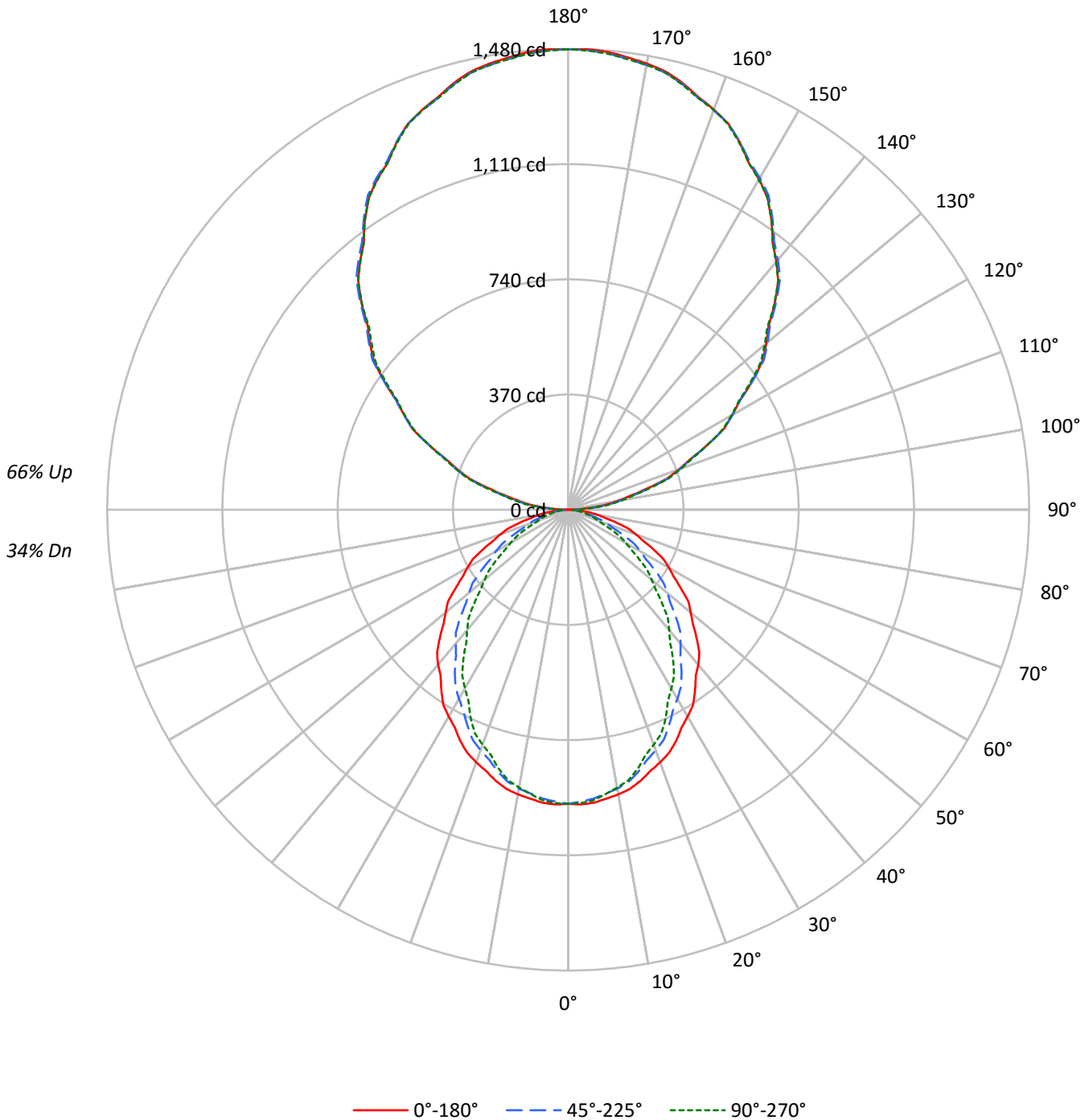
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	93	93	93	93	75	75	75	57	57	57	42	42	42	34
1	94	90	87	83	85	82	79	76	66	63	62	51	49	48	37	36	36	29
2	86	79	73	68	78	72	67	62	58	54	51	45	43	41	33	32	30	25
3	79	70	63	57	71	63	57	52	51	47	43	40	37	34	29	28	26	21
4	72	62	54	48	65	56	50	44	45	41	37	36	32	30	26	24	23	18
5	66	55	47	41	60	50	43	38	41	36	32	32	28	26	24	22	20	16
6	61	49	41	36	55	45	38	33	37	32	28	29	25	23	22	19	17	14
7	56	44	37	31	51	41	34	29	33	28	24	26	23	20	20	17	16	13
8	52	40	33	28	47	37	30	26	30	25	22	24	20	18	18	16	14	11
9	48	37	29	25	44	34	27	23	28	23	19	22	19	16	17	14	13	10
10	45	34	27	22	41	31	25	20	25	21	17	20	17	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10167	10167	10167
5°	10205	10065	10122
10°	10147	9939	9905
15°	10038	9706	9604
20°	9889	9415	9196
25°	9734	9089	8797
30°	9531	8712	8236
35°	9320	8335	7720
40°	9128	7890	7082
45°	8873	7451	6506
50°	8594	6953	5863
55°	8310	6382	5262
60°	8047	5772	4600
65°	7707	5112	3940
70°	7279	4293	3182
75°	6658	3377	2994
80°	5938	2994	2752
85°	5014	2643	2458



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.7	1.4
10°-20°	246.8	4.0
20°-30°	355.3	5.7
30°-40°	400.3	6.4
40°-50°	382.9	6.1
50°-60°	313.6	5.0
60°-70°	211.6	3.4
70°-80°	106.4	1.7
80°-90°	32.5	0.5
90°-100°	96.4	1.5
100°-110°	288.4	4.6
110°-120°	490.5	7.9
120°-130°	645.2	10.3
130°-140°	725.2	11.6
140°-150°	712.8	11.4
150°-160°	600.1	9.6
160°-170°	399.5	6.4
170°-180°	139.9	2.2
0°-30°	690.8	11.1
0°-40°	1091.1	17.5
0°-60°	1787.6	28.7
0°-90°	2138.1	34.3
90°-120°	875.3	14.0
90°-150°	2958.5	47.4
90°-180°	4098.0	65.7
0°-180°	6236.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	944	944	944	944	944	
5°	944	940	932	938	937	90
15°	901	892	871	867	862	254
25°	820	800	765	750	741	377
35°	709	681	634	602	588	444
45°	583	547	490	447	427	450
55°	443	404	340	297	280	397
65°	303	259	201	165	155	299
75°	160	123	81	74	72	171
85°	41	25	21	20	20	46
90°	1	13	28	32	35	6
95°	69	77	86	90	91	77
105°	261	264	274	274	276	280
115°	494	497	495	496	495	488
125°	723	726	724	719	715	644
135°	938	944	943	939	936	722
145°	1138	1140	1143	1142	1138	710
155°	1302	1303	1304	1308	1300	599
165°	1419	1415	1415	1421	1414	400
175°	1476	1471	1471	1477	1470	140
180°	1479	1479	1479	1479	1479	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5
2.5°	947.6	947.0	946.5	945.9	945.4	944.3	942.7	941.0	939.4	937.8	939.3
5°	944.5	943.7	942.8	942.0	941.1	939.7	937.6	935.6	933.5	931.5	933.0
7.5°	935.8	934.9	933.9	933.0	932.1	930.3	927.7	925.0	922.3	919.7	920.5
10°	928.4	927.2	926.0	924.8	923.7	921.5	918.5	915.4	912.3	909.3	909.4
12.5°	918.0	916.7	915.3	914.0	912.7	910.2	906.4	902.7	898.9	895.2	895.1
15°	900.8	899.0	897.1	895.2	893.4	890.0	885.3	880.5	875.7	871.0	870.1
17.5°	879.2	877.1	874.9	872.7	870.5	866.4	860.3	854.3	848.2	842.2	840.4
20°	863.3	860.6	857.9	855.1	852.4	847.8	841.3	834.9	828.4	821.9	819.7
22.5°	845.5	842.4	839.3	836.1	833.0	828.0	821.1	814.2	807.4	800.5	797.7
25°	819.6	815.4	811.1	806.9	802.6	796.6	788.7	780.9	773.1	765.3	761.7
27.5°	788.2	783.5	778.8	774.1	769.4	762.7	754.0	745.3	736.6	727.9	722.9
30°	766.8	761.7	756.6	751.5	746.4	739.0	729.5	720.0	710.4	700.9	695.1
32.5°	745.3	739.6	733.8	728.0	722.2	714.3	704.2	694.1	684.0	673.9	667.6
35°	709.3	703.2	697.1	691.0	684.8	676.5	665.9	655.4	644.8	634.3	626.9
37.5°	672.9	666.1	659.3	652.4	645.6	636.6	625.3	614.1	602.8	591.5	583.2
40°	649.6	642.1	634.6	627.1	619.6	609.8	597.8	585.7	573.6	561.5	552.6
42.5°	623.2	615.7	608.3	600.8	593.3	583.3	570.8	558.3	545.8	533.3	523.6
45°	582.9	575.3	567.6	560.0	552.3	541.9	528.8	515.7	502.6	489.5	479.8
47.5°	542.6	534.2	525.8	517.4	509.0	498.3	485.1	472.0	458.9	445.8	435.3
50°	513.2	505.2	497.2	489.2	481.2	470.3	456.5	442.8	429.0	415.2	404.6
52.5°	486.9	478.2	469.5	460.8	452.2	441.0	427.3	413.7	400.0	386.4	375.4
55°	442.8	434.4	426.1	417.7	409.4	398.0	383.5	369.1	354.6	340.1	330.2
57.5°	402.0	392.9	383.8	374.7	365.6	353.8	339.3	324.8	310.2	295.7	286.4
60°	373.8	364.5	355.1	345.7	336.4	324.6	310.5	296.4	282.2	268.1	258.9
62.5°	345.6	336.3	326.9	317.5	308.2	296.4	282.3	268.2	254.0	239.9	231.3
65°	302.6	293.2	283.9	274.5	265.1	253.8	240.5	227.3	214.0	200.7	192.4
67.5°	259.5	250.1	240.6	231.1	221.7	210.6	197.8	185.1	172.4	159.6	153.4
70°	231.3	222.1	213.0	203.8	194.6	184.0	172.1	160.2	148.3	136.4	130.4
72.5°	203.1	194.1	185.0	176.0	166.9	157.0	146.2	135.3	124.5	113.7	108.8
75°	160.1	151.9	143.8	135.6	127.4	118.6	109.3	99.9	90.6	81.2	79.5
77.5°	120.9	113.5	106.1	98.7	91.3	84.6	78.6	72.6	66.5	60.5	59.6
80°	95.8	88.8	81.8	74.8	67.8	62.6	59.0	55.4	51.8	48.3	47.7
82.5°	71.9	65.8	59.8	53.8	47.7	43.9	42.2	40.6	38.9	37.2	36.7
85°	40.6	36.9	33.1	29.4	25.6	23.5	23.0	22.5	22.0	21.4	21.1
87.5°	14.9	14.0	13.0	12.0	11.0	10.9	11.5	12.2	12.9	13.5	13.6
90°	1.2	3.7	6.3	8.9	11.5	14.5	17.8	21.2	24.5	27.9	28.9
92.5°	28.1	29.9	31.6	33.4	35.1	37.0	38.9	40.8	42.7	44.6	45.4
95°	68.6	70.4	72.2	74.0	75.8	77.7	79.8	81.8	83.9	86.0	87.0
97.5°	121.8	123.1	124.5	125.8	127.1	128.6	130.1	131.6	133.0	134.5	135.7
100°	158.0	159.6	161.1	162.7	164.2	165.6	166.9	168.2	169.5	170.8	171.6
102.5°	199.8	200.8	201.7	202.6	203.6	204.9	206.6	208.3	210.0	211.7	212.5
105°	261.4	261.9	262.5	263.0	263.5	264.9	267.2	269.6	271.9	274.2	274.2
107.5°	333.0	333.3	333.6	333.9	334.2	334.9	335.8	336.7	337.6	338.6	339.4
110°	377.6	378.1	378.6	379.2	379.7	380.2	380.7	381.2	381.7	382.3	383.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	424.1	424.4	424.7	425.0	425.3	425.5	425.6	425.7	425.8	425.9	427.2
115°	493.8	494.6	495.3	496.1	496.9	497.0	496.5	496.0	495.5	495.0	495.2
117.5°	564.0	564.5	565.0	565.5	566.0	566.0	565.3	564.6	564.0	563.3	563.2
120°	607.7	609.2	610.8	612.3	613.9	614.0	612.7	611.4	610.1	608.8	608.6
122.5°	653.2	654.3	655.5	656.6	657.8	658.0	657.3	656.6	656.0	655.3	654.6
125°	722.7	723.5	724.2	725.0	725.8	725.9	725.4	724.9	724.4	723.9	722.8
127.5°	786.8	788.5	790.1	791.8	793.4	794.0	793.4	792.8	792.3	791.7	790.3
130°	829.6	831.6	833.7	835.8	837.8	838.5	837.7	836.9	836.2	835.4	834.4
132.5°	872.3	874.4	876.5	878.5	880.6	881.4	880.8	880.2	879.6	879.1	877.8
135°	937.6	939.2	940.7	942.3	943.8	944.5	944.2	944.0	943.7	943.4	942.4
137.5°	998.1	999.3	1000.6	1001.9	1003.2	1004.2	1004.9	1005.5	1006.2	1006.9	1005.8
140°	1039.9	1041.2	1042.5	1043.8	1045.0	1045.8	1046.1	1046.3	1046.6	1046.9	1046.6
142.5°	1078.0	1079.3	1080.6	1081.9	1083.2	1084.0	1084.5	1085.0	1085.4	1085.9	1085.6
145°	1137.5	1138.0	1138.5	1139.0	1139.5	1140.2	1141.0	1141.7	1142.5	1143.3	1143.0
147.5°	1189.5	1190.5	1191.4	1192.3	1193.3	1194.1	1194.8	1195.5	1196.2	1197.0	1197.0
150°	1225.8	1226.3	1226.8	1227.3	1227.9	1228.4	1228.9	1229.4	1229.9	1230.4	1230.4
152.5°	1255.5	1256.3	1257.0	1257.7	1258.4	1258.9	1259.2	1259.6	1259.9	1260.2	1260.6
155°	1302.5	1302.5	1302.5	1302.5	1302.5	1302.6	1302.9	1303.1	1303.4	1303.6	1304.7
157.5°	1342.4	1342.1	1341.8	1341.5	1341.2	1341.1	1341.4	1341.6	1341.8	1342.0	1343.1
160°	1367.5	1367.0	1366.5	1366.0	1365.5	1365.2	1365.2	1365.2	1365.2	1365.2	1366.5
162.5°	1389.8	1389.1	1388.4	1387.7	1387.0	1386.7	1386.9	1387.1	1387.3	1387.5	1388.8
165°	1418.7	1417.9	1417.1	1416.3	1415.6	1415.2	1415.2	1415.2	1415.2	1415.2	1416.7
167.5°	1441.7	1440.6	1439.6	1438.6	1437.5	1437.1	1437.3	1437.5	1437.7	1437.9	1439.5
170°	1454.7	1453.6	1452.6	1451.6	1450.5	1450.0	1450.0	1450.0	1450.0	1450.0	1451.8
172.5°	1464.9	1463.9	1462.8	1461.8	1460.8	1460.3	1460.3	1460.3	1460.3	1460.3	1461.9
175°	1475.6	1474.6	1473.5	1472.5	1471.5	1470.9	1470.9	1470.9	1470.9	1470.9	1472.5
177.5°	1480.0	1479.2	1478.4	1477.5	1476.7	1476.3	1476.3	1476.3	1476.3	1476.3	1477.5
180°	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5
2.5°	940.8	942.3	943.8	944.4	944.1	943.8	943.6	943.3
5°	934.5	936.1	937.6	938.2	937.9	937.5	937.2	936.8
7.5°	921.4	922.2	923.1	923.2	922.6	922.1	921.5	920.9
10°	909.6	909.8	909.9	909.6	908.8	907.9	907.1	906.2
12.5°	895.0	894.9	894.8	894.2	893.2	892.2	891.3	890.3
15°	869.3	868.4	867.6	866.5	865.3	864.2	863.0	861.8
17.5°	838.6	836.8	834.9	833.2	831.4	829.6	827.8	826.1
20°	817.5	815.3	813.1	811.0	808.9	806.9	804.8	802.8
22.5°	795.0	792.2	789.5	787.1	785.2	783.3	781.4	779.5
25°	758.1	754.5	751.0	748.2	746.4	744.5	742.6	740.7
27.5°	717.9	713.0	708.0	704.1	701.2	698.4	695.5	692.6
30°	689.3	683.5	677.8	673.5	670.8	668.1	665.3	662.6
32.5°	661.3	654.9	648.6	644.0	641.2	638.3	635.4	632.6
35°	619.6	612.3	605.0	599.8	596.7	593.7	590.6	587.5
37.5°	574.9	566.6	558.3	552.3	548.5	544.7	540.9	537.1
40°	543.8	534.9	526.1	519.7	515.8	511.9	508.0	504.0
42.5°	514.0	504.3	494.6	488.0	484.5	481.0	477.5	474.0
45°	470.1	460.4	450.7	443.8	439.7	435.6	431.5	427.4
47.5°	424.7	414.2	403.6	396.5	392.9	389.2	385.6	381.9
50°	394.1	383.5	373.0	365.7	361.8	357.9	354.0	350.1
52.5°	364.5	353.5	342.5	335.3	331.8	328.3	324.8	321.3
55°	320.4	310.5	300.6	294.0	290.6	287.2	283.8	280.4
57.5°	277.0	267.7	258.4	252.3	249.4	246.5	243.6	240.7
60°	249.7	240.5	231.3	225.3	222.4	219.5	216.6	213.7
62.5°	222.6	214.0	205.3	199.5	196.5	193.4	190.4	187.4
65°	184.0	175.7	167.3	162.2	160.4	158.5	156.6	154.7
67.5°	147.2	140.9	134.7	130.6	128.6	126.6	124.6	122.6
70°	124.4	118.5	112.5	108.6	106.7	104.9	103.0	101.1
72.5°	103.9	99.1	94.2	91.4	90.6	89.8	89.0	88.2
75°	77.8	76.1	74.4	73.4	73.0	72.7	72.3	72.0
77.5°	58.7	57.8	56.8	56.2	55.9	55.5	55.2	54.8
80°	47.2	46.7	46.2	45.8	45.5	45.1	44.8	44.4
82.5°	36.2	35.7	35.2	34.9	34.8	34.8	34.7	34.6
85°	20.8	20.4	20.1	19.9	19.9	19.9	19.9	19.9
87.5°	13.7	13.8	13.8	13.8	13.8	13.8	13.7	13.7
90°	30.0	31.0	32.0	32.8	33.3	33.8	34.3	34.9
92.5°	46.3	47.1	47.9	48.2	47.9	47.6	47.2	46.9
95°	88.0	89.1	90.1	90.6	90.6	90.6	90.6	90.6
97.5°	136.9	138.1	139.3	139.8	139.7	139.6	139.5	139.4
100°	172.3	173.1	173.9	174.5	175.1	175.6	176.1	176.6
102.5°	213.2	214.0	214.8	215.1	215.0	214.9	214.8	214.7
105°	274.2	274.2	274.2	274.5	275.0	275.5	276.0	276.5
107.5°	340.2	341.1	341.9	342.1	341.8	341.5	341.2	340.9
110°	384.3	385.4	386.4	386.6	386.1	385.6	385.1	384.6



TEST NUMBER: P332298

CATALOG NUMBER: S123RDIP-S560D1195U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	428.4	429.7	430.9	431.5	431.4	431.3	431.2	431.1
115°	495.5	495.7	496.0	496.0	495.7	495.5	495.2	495.0
117.5°	563.2	563.1	563.1	562.7	562.0	561.2	560.5	559.8
120°	608.3	608.1	607.8	607.4	606.9	606.4	605.9	605.3
122.5°	654.0	653.3	652.6	651.9	651.2	650.5	649.7	649.0
125°	721.8	720.8	719.7	718.7	717.7	716.6	715.6	714.6
127.5°	788.8	787.4	785.9	784.6	783.4	782.2	781.0	779.9
130°	833.3	832.3	831.3	829.8	828.0	826.2	824.4	822.6
132.5°	876.6	875.4	874.1	872.8	871.4	870.0	868.6	867.2
135°	941.4	940.3	939.3	938.5	938.0	937.5	937.0	936.5
137.5°	1004.7	1003.6	1002.5	1001.5	1000.5	999.6	998.6	997.6
140°	1046.3	1046.1	1045.8	1044.8	1043.0	1041.2	1039.4	1037.6
142.5°	1085.4	1085.1	1084.9	1084.0	1082.6	1081.2	1079.9	1078.5
145°	1142.8	1142.5	1142.3	1141.6	1140.6	1139.5	1138.5	1137.5
147.5°	1197.0	1197.0	1197.0	1196.2	1194.6	1193.1	1191.5	1190.0
150°	1230.4	1230.4	1230.4	1229.7	1228.1	1226.6	1225.0	1223.5
152.5°	1261.0	1261.4	1261.8	1261.4	1260.0	1258.7	1257.3	1256.0
155°	1305.7	1306.7	1307.8	1307.4	1305.6	1303.8	1302.0	1300.1
157.5°	1344.1	1345.2	1346.3	1346.1	1344.7	1343.2	1341.8	1340.3
160°	1367.8	1369.1	1370.4	1370.5	1369.5	1368.4	1367.4	1366.4
162.5°	1390.1	1391.4	1392.7	1392.5	1390.8	1389.2	1387.5	1385.9
165°	1418.3	1419.8	1421.4	1421.2	1419.4	1417.6	1415.8	1414.0
167.5°	1441.1	1442.7	1444.3	1444.3	1442.7	1441.1	1439.5	1437.9
170°	1453.6	1455.5	1457.3	1457.3	1455.5	1453.6	1451.8	1450.0
172.5°	1463.5	1465.1	1466.7	1466.6	1464.7	1462.9	1461.1	1459.3
175°	1474.0	1475.6	1477.1	1477.0	1475.2	1473.4	1471.6	1469.8
177.5°	1478.8	1480.0	1481.2	1481.1	1479.7	1478.2	1476.8	1475.4
180°	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1

(END OF REPORT)