

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: P332298-940

Luminaire Tested: **S123RDIP-S560D1195U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332298-940
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-S560D1195U940-4F0-1E-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: 5560.8 lumens
Efficiency: N/A
Efficacy: 112.6 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

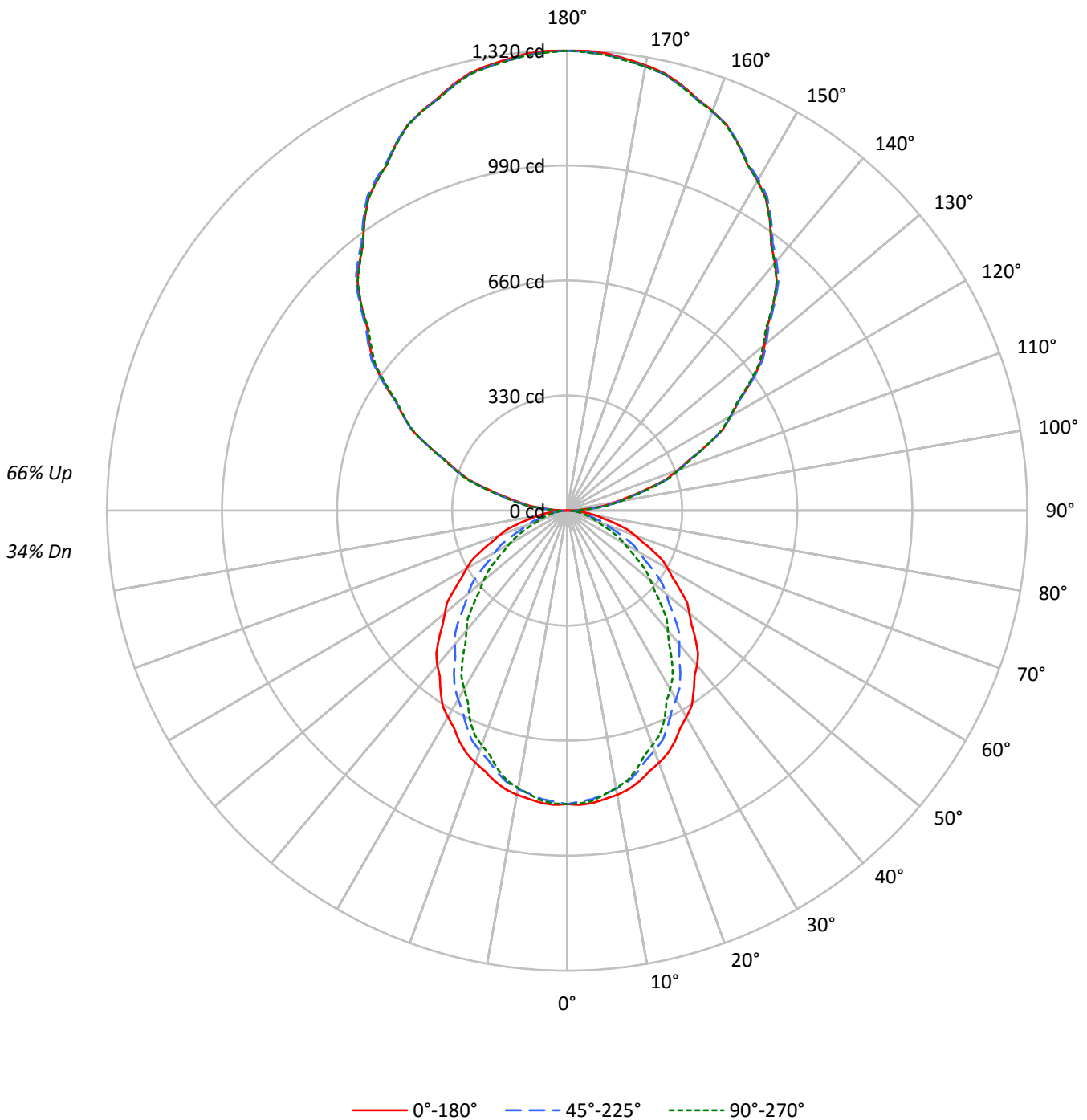
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	9065	9065	9065
5°	9100	8975	9027
10°	9049	8862	8833
15°	8952	8655	8564
20°	8818	8395	8200
25°	8679	8105	7845
30°	8499	7768	7343
35°	8311	7432	6884
40°	8140	7035	6315
45°	7913	6645	5801
50°	7663	6199	5228
55°	7409	5692	4692
60°	7175	5147	4103
65°	6872	4559	3512
70°	6493	3827	2839
75°	5939	3011	2670
80°	5294	2672	2455
85°	4471	2359	2186



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.1	1.4
10°-20°	220.1	4.0
20°-30°	316.9	5.7
30°-40°	356.9	6.4
40°-50°	341.4	6.1
50°-60°	279.6	5.0
60°-70°	188.7	3.4
70°-80°	94.9	1.7
80°-90°	29.0	0.5
90°-100°	85.9	1.5
100°-110°	257.2	4.6
110°-120°	437.4	7.9
120°-130°	575.3	10.3
130°-140°	646.7	11.6
140°-150°	635.6	11.4
150°-160°	535.1	9.6
160°-170°	356.2	6.4
170°-180°	124.7	2.2
0°-30°	616.0	11.1
0°-40°	972.9	17.5
0°-60°	1594.0	28.7
0°-90°	1906.5	34.3
90°-120°	780.5	14.0
90°-150°	2638.1	47.4
90°-180°	3654.0	65.7
0°-180°	5560.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	842	842	842	842	842	
5°	842	839	831	836	835	80
15°	803	795	777	773	768	226
25°	731	713	682	668	660	336
35°	632	607	566	537	524	396
45°	520	488	436	399	381	401
55°	395	360	303	265	250	354
65°	270	231	179	147	138	267
75°	143	110	72	66	64	152
85°	36	22	19	18	18	41
90°	1	12	25	29	31	6
95°	61	68	77	81	81	69
105°	233	236	244	245	247	250
115°	440	443	441	442	441	436
125°	644	647	646	641	637	574
135°	836	842	841	837	835	644
145°	1014	1016	1020	1018	1014	633
155°	1162	1162	1162	1166	1159	534
165°	1265	1262	1262	1267	1261	357
175°	1316	1312	1312	1317	1311	125
180°	1319	1319	1319	1319	1319	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2
2.5°	845.0	844.5	844.0	843.5	843.0	842.0	840.6	839.1	837.7	836.2	837.6
5°	842.2	841.5	840.7	840.0	839.2	837.9	836.1	834.3	832.4	830.6	832.0
7.5°	834.5	833.7	832.8	832.0	831.2	829.6	827.2	824.8	822.4	820.1	820.8
10°	827.9	826.8	825.7	824.7	823.7	821.7	819.0	816.3	813.5	810.8	810.9
12.5°	818.6	817.4	816.2	815.0	813.9	811.6	808.2	804.9	801.6	798.3	798.2
15°	803.3	801.6	800.0	798.3	796.7	793.6	789.4	785.2	780.9	776.7	775.9
17.5°	784.0	782.1	780.2	778.2	776.2	772.6	767.1	761.8	756.3	751.0	749.4
20°	769.8	767.4	765.0	762.5	760.1	756.0	750.2	744.5	738.7	732.9	730.9
22.5°	753.9	751.2	748.4	745.6	742.8	738.3	732.2	726.0	720.0	713.8	711.3
25°	730.8	727.1	723.3	719.5	715.7	710.3	703.3	696.3	689.4	682.4	679.2
27.5°	702.8	698.7	694.5	690.3	686.1	680.1	672.3	664.6	656.8	649.1	644.6
30°	683.8	679.2	674.7	670.1	665.6	659.0	650.5	642.0	633.5	625.0	619.8
32.5°	664.6	659.5	654.3	649.2	644.0	636.9	627.9	618.9	609.9	600.9	595.3
35°	632.5	627.1	621.6	616.2	610.6	603.2	593.8	584.4	575.0	565.6	559.0
37.5°	600.0	594.0	587.9	581.8	575.7	567.7	557.6	547.6	537.5	527.4	520.0
40°	579.3	572.6	565.9	559.2	552.5	543.8	533.1	522.3	511.5	500.7	492.8
42.5°	555.7	549.0	542.4	535.7	529.1	520.1	509.0	497.8	486.7	475.5	466.9
45°	519.8	513.0	506.1	499.4	492.5	483.2	471.5	459.9	448.2	436.5	427.8
47.5°	483.8	476.4	468.9	461.4	453.9	444.3	432.6	420.9	409.2	397.5	388.2
50°	457.6	450.5	443.4	436.2	429.1	419.4	407.1	394.8	382.5	370.2	360.8
52.5°	434.2	426.4	418.7	410.9	403.2	393.2	381.0	368.9	356.7	344.6	334.7
55°	394.8	387.4	380.0	372.5	365.1	354.9	342.0	329.1	316.2	303.3	294.4
57.5°	358.5	350.4	342.2	334.1	326.0	315.5	302.6	289.6	276.6	263.7	255.4
60°	333.3	325.0	316.6	308.3	300.0	289.4	276.9	264.3	251.6	239.1	230.9
62.5°	308.2	299.9	291.5	283.1	274.8	264.3	251.7	239.2	226.5	213.9	206.3
65°	269.8	261.4	253.2	244.8	236.4	226.3	214.5	202.7	190.8	179.0	171.6
67.5°	231.4	223.0	214.5	206.1	197.7	187.8	176.4	165.1	153.7	142.3	136.8
70°	206.3	198.0	189.9	181.7	173.5	164.1	153.5	142.9	132.2	121.6	116.3
72.5°	181.1	173.1	165.0	156.9	148.8	140.0	130.4	120.6	111.0	101.4	97.0
75°	142.8	135.5	128.2	120.9	113.6	105.8	97.5	89.1	80.8	72.4	70.9
77.5°	107.8	101.2	94.6	88.0	81.4	75.4	70.1	64.7	59.3	53.9	53.1
80°	85.4	79.2	72.9	66.7	60.5	55.8	52.6	49.4	46.2	43.1	42.5
82.5°	64.1	58.7	53.3	48.0	42.5	39.1	37.6	36.2	34.7	33.2	32.7
85°	36.2	32.9	29.5	26.2	22.8	21.0	20.5	20.1	19.6	19.1	18.8
87.5°	13.3	12.5	11.6	10.7	9.8	9.7	10.3	10.9	11.5	12.0	12.1
90°	1.1	3.3	5.6	7.9	10.3	12.9	15.9	18.9	21.8	24.9	25.8
92.5°	25.1	26.7	28.2	29.8	31.3	33.0	34.7	36.4	38.1	39.8	40.5
95°	61.2	62.8	64.4	66.0	67.6	69.3	71.2	72.9	74.8	76.7	77.6
97.5°	108.6	109.8	111.0	112.2	113.3	114.7	116.0	117.3	118.6	119.9	121.0
100°	140.9	142.3	143.7	145.1	146.4	147.7	148.8	150.0	151.1	152.3	153.0
102.5°	178.2	179.1	179.9	180.7	181.6	182.7	184.2	185.7	187.3	188.8	189.5
105°	233.1	233.5	234.1	234.5	235.0	236.2	238.3	240.4	242.5	244.5	244.5
107.5°	296.9	297.2	297.5	297.7	298.0	298.6	299.4	300.2	301.0	301.9	302.6
110°	336.7	337.2	337.6	338.1	338.6	339.0	339.5	339.9	340.4	340.9	341.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	378.2	378.4	378.7	379.0	379.2	379.4	379.5	379.6	379.7	379.8	380.9
115°	440.3	441.0	441.7	442.4	443.1	443.2	442.7	442.3	441.8	441.4	441.6
117.5°	502.9	503.4	503.8	504.3	504.7	504.7	504.1	503.5	502.9	502.3	502.2
120°	541.9	543.2	544.7	546.0	547.4	547.5	546.4	545.2	544.0	542.9	542.7
122.5°	582.5	583.4	584.5	585.5	586.6	586.7	586.1	585.5	585.0	584.3	583.7
125°	644.4	645.2	645.8	646.5	647.2	647.3	646.8	646.4	646.0	645.5	644.5
127.5°	701.6	703.1	704.5	706.1	707.5	708.0	707.5	706.9	706.5	706.0	704.7
130°	739.8	741.5	743.4	745.3	747.1	747.7	747.0	746.3	745.6	744.9	744.0
132.5°	777.8	779.7	781.6	783.4	785.2	786.0	785.4	784.9	784.3	783.9	782.7
135°	836.1	837.5	838.8	840.3	841.6	842.2	842.0	841.8	841.5	841.2	840.3
137.5°	890.0	891.1	892.2	893.4	894.6	895.5	896.1	896.6	897.2	897.9	896.9
140°	927.3	928.4	929.6	930.8	931.8	932.6	932.8	933.0	933.3	933.5	933.3
142.5°	961.3	962.4	963.6	964.7	965.9	966.6	967.1	967.5	967.9	968.3	968.0
145°	1014.3	1014.8	1015.2	1015.7	1016.1	1016.7	1017.4	1018.1	1018.8	1019.5	1019.2
147.5°	1060.7	1061.6	1062.4	1063.2	1064.1	1064.8	1065.4	1066.0	1066.7	1067.4	1067.4
150°	1093.1	1093.5	1094.0	1094.4	1094.9	1095.4	1095.8	1096.3	1096.7	1097.2	1097.2
152.5°	1119.5	1120.3	1120.9	1121.5	1122.1	1122.6	1122.8	1123.2	1123.5	1123.7	1124.1
155°	1161.5	1161.5	1161.5	1161.5	1161.5	1161.5	1161.8	1162.0	1162.3	1162.4	1163.4
157.5°	1197.0	1196.8	1196.5	1196.2	1196.0	1195.9	1196.1	1196.3	1196.5	1196.7	1197.7
160°	1219.4	1219.0	1218.5	1218.1	1217.6	1217.4	1217.4	1217.4	1217.4	1217.4	1218.5
162.5°	1239.3	1238.7	1238.1	1237.4	1236.8	1236.5	1236.7	1236.9	1237.1	1237.2	1238.4
165°	1265.1	1264.4	1263.6	1262.9	1262.3	1261.9	1261.9	1261.9	1261.9	1261.9	1263.3
167.5°	1285.6	1284.6	1283.7	1282.8	1281.8	1281.5	1281.7	1281.8	1282.0	1282.2	1283.6
170°	1297.2	1296.2	1295.3	1294.4	1293.4	1293.0	1293.0	1293.0	1293.0	1293.0	1294.6
172.5°	1306.3	1305.4	1304.4	1303.5	1302.6	1302.2	1302.2	1302.2	1302.2	1302.2	1303.6
175°	1315.8	1314.9	1313.9	1313.0	1312.2	1311.6	1311.6	1311.6	1311.6	1311.6	1313.0
177.5°	1319.7	1319.0	1318.3	1317.5	1316.8	1316.4	1316.4	1316.4	1316.4	1316.4	1317.5
180°	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2
2.5°	838.9	840.3	841.6	842.1	841.9	841.6	841.4	841.2
5°	833.3	834.7	836.1	836.6	836.3	836.0	835.7	835.4
7.5°	821.6	822.3	823.1	823.2	822.7	822.2	821.7	821.2
10°	811.1	811.3	811.4	811.1	810.4	809.6	808.9	808.1
12.5°	798.1	798.0	797.9	797.4	796.5	795.6	794.8	793.9
15°	775.2	774.4	773.6	772.7	771.6	770.6	769.5	768.5
17.5°	747.8	746.2	744.5	743.0	741.4	739.8	738.2	736.6
20°	729.0	727.0	725.1	723.2	721.3	719.5	717.6	715.9
22.5°	708.9	706.4	704.0	701.9	700.2	698.5	696.8	695.1
25°	676.0	672.8	669.7	667.2	665.6	663.9	662.2	660.5
27.5°	640.2	635.8	631.3	627.9	625.3	622.8	620.2	617.6
30°	614.7	609.5	604.4	600.6	598.2	595.8	593.3	590.8
32.5°	589.7	584.0	578.4	574.3	571.8	569.2	566.6	564.1
35°	552.5	546.0	539.5	534.8	532.1	529.4	526.6	523.9
37.5°	512.6	505.2	497.8	492.5	489.1	485.7	482.3	478.9
40°	484.9	477.0	469.1	463.4	459.9	456.5	453.0	449.4
42.5°	458.3	449.7	441.0	435.2	432.0	428.9	425.8	422.7
45°	419.2	410.5	401.9	395.7	392.1	388.4	384.8	381.1
47.5°	378.7	369.3	359.9	353.6	350.4	347.1	343.8	340.5
50°	351.4	342.0	332.6	326.1	322.6	319.1	315.7	312.2
52.5°	325.0	315.2	305.4	299.0	295.9	292.7	289.6	286.5
55°	285.7	276.9	268.0	262.2	259.1	256.1	253.1	250.0
57.5°	247.0	238.7	230.4	225.0	222.4	219.8	217.2	214.6
60°	222.7	214.5	206.3	200.9	198.3	195.7	193.1	190.6
62.5°	198.5	190.8	183.1	177.9	175.2	172.5	169.8	167.1
65°	164.1	156.7	149.2	144.6	143.0	141.3	139.6	137.9
67.5°	131.3	125.6	120.1	116.5	114.7	112.9	111.1	109.3
70°	110.9	105.7	100.3	96.8	95.1	93.5	91.8	90.2
72.5°	92.6	88.4	84.0	81.5	80.8	80.1	79.4	78.6
75°	69.4	67.9	66.3	65.5	65.1	64.8	64.5	64.2
77.5°	52.3	51.5	50.6	50.1	49.8	49.5	49.2	48.9
80°	42.1	41.6	41.2	40.8	40.6	40.2	39.9	39.6
82.5°	32.3	31.8	31.4	31.1	31.0	31.0	30.9	30.9
85°	18.5	18.2	17.9	17.7	17.7	17.7	17.7	17.7
87.5°	12.2	12.3	12.3	12.3	12.3	12.3	12.2	12.2
90°	26.8	27.6	28.5	29.2	29.7	30.1	30.6	31.1
92.5°	41.3	42.0	42.7	43.0	42.7	42.4	42.1	41.8
95°	78.5	79.5	80.3	80.8	80.8	80.8	80.8	80.8
97.5°	122.1	123.1	124.2	124.7	124.6	124.5	124.4	124.3
100°	153.6	154.4	155.1	155.6	156.1	156.6	157.0	157.5
102.5°	190.1	190.8	191.5	191.8	191.7	191.6	191.5	191.5
105°	244.5	244.5	244.5	244.8	245.2	245.7	246.1	246.6
107.5°	303.4	304.2	304.9	305.1	304.8	304.5	304.3	304.0
110°	342.7	343.7	344.6	344.7	344.3	343.8	343.4	343.0



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CATALOG NUMBER: S123RDIP-S560D1195U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	382.0	383.2	384.2	384.8	384.7	384.6	384.5	384.4
115°	441.8	442.0	442.3	442.3	442.0	441.8	441.6	441.4
117.5°	502.2	502.1	502.1	501.8	501.1	500.4	499.8	499.2
120°	542.4	542.2	542.0	541.6	541.2	540.7	540.3	539.8
122.5°	583.2	582.6	581.9	581.3	580.7	580.1	579.3	578.7
125°	643.6	642.7	641.8	640.9	640.0	639.0	638.1	637.2
127.5°	703.4	702.1	700.8	699.6	698.6	697.5	696.4	695.4
130°	743.1	742.2	741.3	739.9	738.3	736.7	735.1	733.5
132.5°	781.7	780.6	779.4	778.3	777.0	775.8	774.5	773.3
135°	839.5	838.5	837.6	836.9	836.4	836.0	835.5	835.1
137.5°	895.9	894.9	893.9	893.0	892.2	891.4	890.5	889.6
140°	933.0	932.8	932.6	931.7	930.1	928.4	926.8	925.2
142.5°	967.9	967.6	967.4	966.6	965.4	964.1	963.0	961.7
145°	1019.0	1018.8	1018.6	1018.0	1017.1	1016.1	1015.2	1014.3
147.5°	1067.4	1067.4	1067.4	1066.7	1065.2	1063.9	1062.5	1061.1
150°	1097.2	1097.2	1097.2	1096.5	1095.1	1093.8	1092.3	1091.0
152.5°	1124.4	1124.8	1125.2	1124.8	1123.6	1122.4	1121.1	1120.0
155°	1164.3	1165.2	1166.2	1165.8	1164.2	1162.6	1161.0	1159.3
157.5°	1198.5	1199.5	1200.5	1200.3	1199.1	1197.7	1196.5	1195.2
160°	1219.7	1220.8	1222.0	1222.1	1221.2	1220.2	1219.3	1218.4
162.5°	1239.6	1240.7	1241.9	1241.7	1240.2	1238.8	1237.2	1235.8
165°	1264.7	1266.1	1267.5	1267.3	1265.7	1264.1	1262.5	1260.9
167.5°	1285.0	1286.5	1287.9	1287.9	1286.5	1285.0	1283.6	1282.2
170°	1296.2	1297.9	1299.5	1299.5	1297.9	1296.2	1294.6	1293.0
172.5°	1305.0	1306.4	1307.9	1307.8	1306.1	1304.5	1302.9	1301.3
175°	1314.4	1315.8	1317.1	1317.1	1315.5	1313.8	1312.2	1310.6
177.5°	1318.7	1319.7	1320.8	1320.7	1319.5	1318.1	1316.9	1315.6
180°	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9

(END OF REPORT)