

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: P331952-935

Luminaire Tested: **S123DIP-S560D1195U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331952-935
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-S560D1195U935-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6105.7 lumens
Efficiency: N/A
Efficacy: 123.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

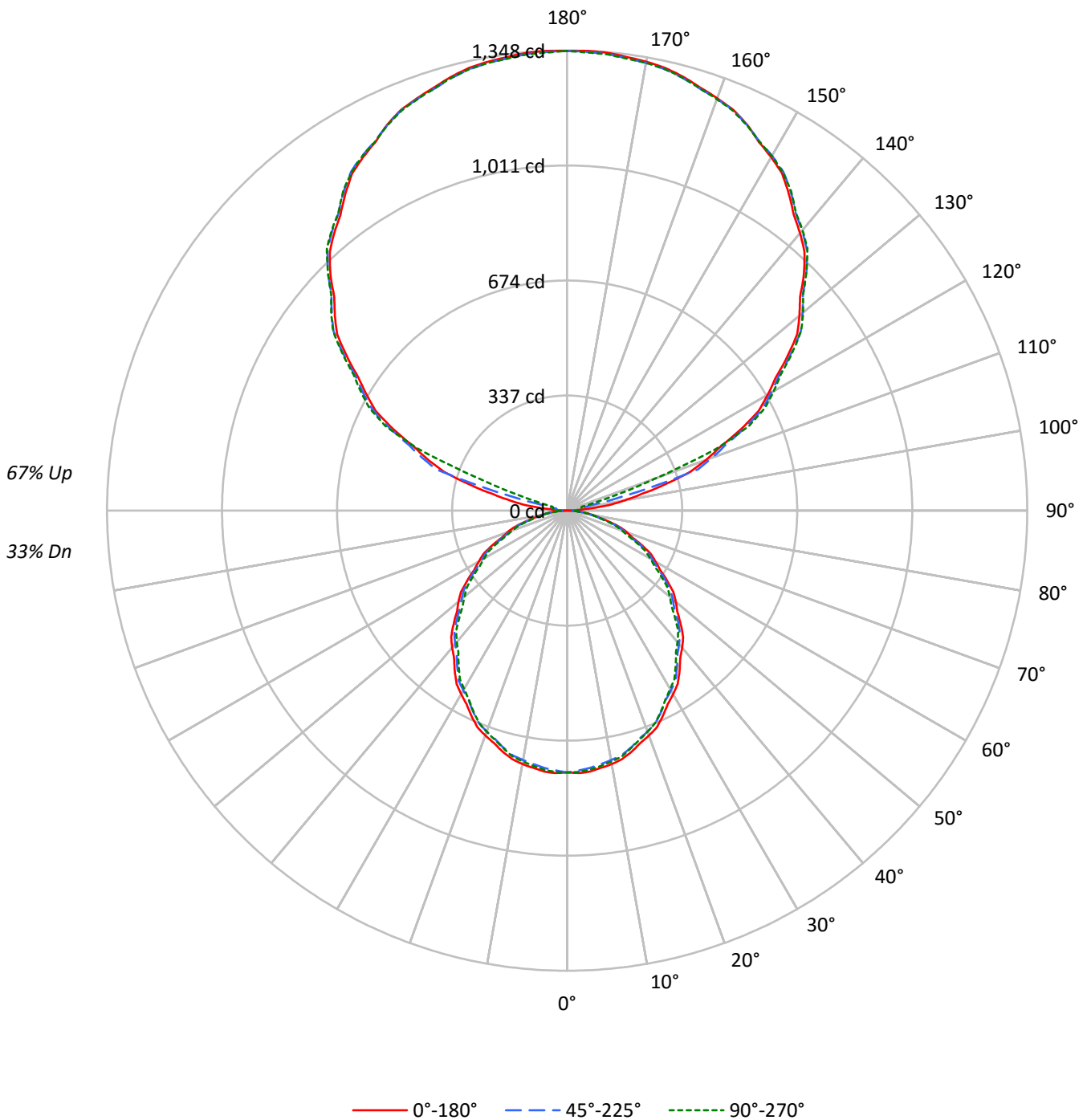
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	74	74	74	56	56	56	40	40	40	33
1	94	90	86	82	84	81	78	75	64	62	60	49	48	47	35	35	34	27
2	85	78	72	67	77	71	66	61	56	53	50	43	41	39	31	30	28	23
3	78	69	62	56	70	62	56	51	50	45	42	38	35	33	28	26	24	19
4	71	61	53	47	64	55	48	43	44	39	36	34	31	28	25	23	21	17
5	65	54	46	40	58	49	42	37	39	34	31	30	27	24	22	20	18	14
6	60	48	40	35	54	44	37	32	35	30	26	27	24	21	20	18	16	13
7	55	43	36	30	50	39	33	28	32	27	23	25	21	19	18	16	14	11
8	51	39	32	27	46	36	29	25	29	24	21	23	19	17	17	14	13	10
9	48	36	29	24	43	33	26	22	27	22	18	21	17	15	15	13	11	9
10	44	33	26	21	40	30	24	19	24	20	16	19	16	13	14	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8257	8257	8257
5°	8295	8182	8238
10°	8240	8110	8160
15°	8143	8018	8033
20°	8031	7887	7895
25°	7880	7732	7715
30°	7713	7558	7501
35°	7540	7376	7281
40°	7359	7173	7062
45°	7159	6987	6817
50°	6958	6759	6571
55°	6696	6523	6324
60°	6433	6247	6047
65°	6199	5947	5761
70°	5854	5605	5353
75°	5348	5157	4937
80°	4823	4624	4581
85°	4236	4076	3915



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.3	1.2
10°-20°	204.0	3.3
20°-30°	301.4	4.9
30°-40°	352.0	5.8
40°-50°	353.9	5.8
50°-60°	310.9	5.1
60°-70°	231.6	3.8
70°-80°	132.0	2.2
80°-90°	41.6	0.7
90°-100°	48.9	0.8
100°-110°	233.3	3.8
110°-120°	560.4	9.2
120°-130°	713.6	11.7
130°-140°	762.5	12.5
140°-150°	713.0	11.7
150°-160°	575.1	9.4
160°-170°	371.2	6.1
170°-180°	127.9	2.1
0°-30°	577.6	9.5
0°-40°	929.7	15.2
0°-60°	1594.5	26.1
0°-90°	1999.7	32.8
90°-120°	842.6	13.8
90°-150°	3031.7	49.7
90°-180°	4106.0	67.2
0°-180°	6105.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	767	767	767	767	767	
5°	768	764	757	763	762	73
15°	731	728	720	724	721	206
25°	664	659	651	651	650	305
35°	574	570	561	557	554	359
45°	470	467	459	451	448	363
55°	357	356	348	340	337	319
65°	243	240	234	228	226	240
75°	129	126	124	121	119	138
85°	34	33	33	32	32	38
90°	1	11	24	28	30	5
95°	61	23	31	38	38	75
105°	298	304	219	52	44	316
115°	559	565	574	584	588	552
125°	788	796	800	802	804	704
135°	981	987	991	994	991	755
145°	1132	1139	1141	1143	1143	709
155°	1247	1246	1246	1251	1245	574
165°	1315	1313	1311	1319	1312	371
175°	1346	1342	1342	1349	1341	128
180°	1346	1346	1346	1346	1346	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1
2.5°	769.6	769.2	768.8	768.3	767.8	766.9	765.6	764.3	763.1	761.8	762.9
5°	767.7	767.0	766.2	765.5	764.7	763.6	762.0	760.3	758.8	757.2	758.6
7.5°	760.2	759.5	758.7	758.0	757.2	756.0	754.4	752.7	751.1	749.4	750.7
10°	753.9	753.1	752.4	751.7	751.0	749.6	747.7	745.8	743.9	742.0	743.3
12.5°	745.5	744.8	744.2	743.6	743.0	741.8	739.9	738.1	736.4	734.6	735.6
15°	730.7	730.2	729.6	729.0	728.4	727.2	725.3	723.4	721.4	719.5	720.7
17.5°	713.8	713.0	712.2	711.4	710.7	709.4	707.5	705.6	703.7	701.7	702.6
20°	701.1	700.3	699.3	698.4	697.6	696.2	694.3	692.4	690.4	688.5	689.1
22.5°	686.8	686.0	685.1	684.2	683.3	681.9	680.0	678.1	676.2	674.3	674.8
25°	663.5	662.6	661.8	660.9	660.0	658.6	656.7	654.8	652.9	651.0	651.1
27.5°	638.6	637.7	636.9	636.0	635.2	633.7	631.6	629.6	627.6	625.5	625.6
30°	620.6	619.9	619.1	618.5	617.7	616.3	614.2	612.2	610.2	608.1	608.1
32.5°	602.7	601.8	600.7	599.8	598.8	597.5	596.0	594.3	592.8	591.2	590.4
35°	573.8	572.9	572.0	571.2	570.3	568.9	567.0	565.1	563.2	561.3	560.4
37.5°	544.2	543.1	542.0	540.9	539.8	538.3	536.3	534.4	532.4	530.5	529.5
40°	523.7	522.8	521.9	521.1	520.1	518.7	516.6	514.6	512.6	510.5	509.3
42.5°	503.1	502.1	501.1	500.1	499.1	497.6	495.5	493.5	491.5	489.4	488.2
45°	470.3	469.7	469.1	468.5	467.9	466.7	464.8	462.9	461.0	459.0	457.3
47.5°	437.6	436.8	436.0	435.1	434.3	432.9	431.2	429.4	427.6	425.8	424.0
50°	415.5	414.7	414.1	413.3	412.6	411.3	409.3	407.4	405.5	403.6	402.0
52.5°	392.3	391.8	391.3	390.8	390.3	389.0	387.0	385.0	383.0	381.0	379.6
55°	356.8	356.6	356.5	356.4	356.2	355.2	353.3	351.4	349.5	347.6	345.9
57.5°	323.0	322.5	322.0	321.6	321.1	320.0	318.5	317.0	315.5	313.9	312.5
60°	298.8	298.6	298.5	298.3	298.2	297.2	295.5	293.7	292.0	290.2	288.9
62.5°	277.2	276.7	276.4	276.0	275.6	274.6	272.8	271.0	269.2	267.5	266.2
65°	243.4	242.6	241.9	241.2	240.5	239.4	237.9	236.4	235.0	233.5	232.3
67.5°	207.6	207.0	206.3	205.7	205.0	204.1	203.0	201.9	200.8	199.8	198.7
70°	186.0	185.1	184.3	183.4	182.4	181.6	180.7	179.9	178.9	178.1	177.0
72.5°	163.3	162.6	162.0	161.4	160.7	159.9	158.9	157.9	156.9	155.9	155.0
75°	128.6	128.0	127.4	126.8	126.3	125.8	125.3	124.8	124.4	124.0	123.3
77.5°	97.9	97.6	97.2	96.9	96.6	96.2	95.7	95.1	94.5	94.0	93.6
80°	77.8	77.4	77.0	76.5	76.0	75.7	75.4	75.1	74.8	74.6	74.4
82.5°	58.3	58.2	58.1	58.0	57.9	57.9	57.9	57.8	57.7	57.7	57.3
85°	34.3	34.0	33.8	33.4	33.1	33.0	33.0	33.0	33.0	33.0	32.7
87.5°	13.9	14.0	14.1	14.2	14.3	14.6	15.1	15.5	15.9	16.4	16.4
90°	1.0	3.2	5.4	7.7	9.9	12.5	15.3	18.3	21.1	24.0	24.9
92.5°	18.6	18.0	17.4	16.7	16.1	16.9	19.1	21.3	23.4	25.6	27.0
95°	61.0	51.9	42.8	33.7	24.5	21.3	23.7	26.1	28.6	31.0	32.5
97.5°	122.6	118.6	114.4	110.4	106.2	96.3	80.2	64.2	48.2	32.2	34.0
100°	169.0	173.5	178.0	182.4	186.8	171.7	137.1	102.4	67.7	33.0	34.8
102.5°	221.9	225.1	228.3	231.4	234.7	217.3	179.4	141.5	103.7	65.8	60.3
105°	298.1	300.6	303.0	305.4	307.9	299.1	279.1	259.1	239.1	219.0	179.7
107.5°	378.5	380.5	382.5	384.4	386.3	388.9	392.1	395.2	398.4	401.6	372.6
110°	432.1	433.9	435.7	437.5	439.3	441.3	443.8	446.3	448.7	451.2	443.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	483.4	484.9	486.6	488.2	489.7	491.8	494.2	496.7	499.1	501.5	501.7
115°	559.2	560.5	561.8	563.2	564.5	566.2	568.2	570.2	572.2	574.2	576.4
117.5°	632.6	634.2	635.8	637.6	639.2	640.5	641.5	642.6	643.6	644.6	646.4
120°	678.2	680.2	682.3	684.2	686.2	687.6	688.2	688.9	689.6	690.2	692.0
122.5°	724.6	726.3	727.9	729.5	731.2	732.5	733.3	734.2	734.9	735.8	737.1
125°	788.2	790.1	791.8	793.6	795.4	796.7	797.5	798.5	799.4	800.2	800.7
127.5°	849.9	851.6	853.4	855.2	857.0	858.4	859.5	860.6	861.6	862.6	863.4
130°	888.3	890.1	891.8	893.6	895.4	896.7	897.6	898.5	899.4	900.3	901.2
132.5°	925.1	926.9	928.7	930.4	932.2	933.4	934.2	934.9	935.6	936.3	937.2
135°	981.3	982.7	984.0	985.3	986.6	987.7	988.7	989.5	990.4	991.4	992.0
137.5°	1029.3	1031.0	1032.7	1034.4	1036.1	1037.2	1037.7	1038.2	1038.6	1039.1	1040.2
140°	1061.4	1062.6	1064.0	1065.3	1066.7	1067.6	1068.3	1069.0	1069.7	1070.3	1071.3
142.5°	1091.0	1092.3	1093.6	1094.9	1096.3	1097.3	1097.9	1098.6	1099.3	1099.9	1100.7
145°	1132.4	1133.9	1135.5	1137.0	1138.6	1139.6	1140.1	1140.5	1140.9	1141.3	1141.8
147.5°	1171.4	1172.4	1173.5	1174.4	1175.4	1176.2	1176.6	1177.1	1177.5	1177.9	1178.5
150°	1195.4	1196.0	1196.7	1197.4	1198.1	1198.6	1199.0	1199.5	1200.0	1200.4	1200.8
152.5°	1217.0	1217.3	1217.6	1217.9	1218.2	1218.5	1218.7	1219.1	1219.3	1219.6	1220.4
155°	1247.4	1247.0	1246.5	1246.0	1245.6	1245.5	1245.7	1246.0	1246.2	1246.4	1247.5
157.5°	1271.0	1270.9	1270.9	1270.8	1270.8	1270.7	1270.5	1270.2	1270.1	1269.8	1271.2
160°	1285.4	1285.2	1285.0	1284.8	1284.5	1284.3	1284.1	1283.8	1283.7	1283.4	1284.8
162.5°	1299.0	1298.5	1297.9	1297.3	1296.7	1296.3	1296.1	1295.9	1295.6	1295.4	1296.9
165°	1315.4	1314.7	1314.1	1313.5	1312.8	1312.3	1312.1	1311.8	1311.6	1311.4	1313.2
167.5°	1328.3	1327.3	1326.5	1325.6	1324.6	1324.2	1324.2	1324.2	1324.2	1324.2	1326.0
170°	1335.4	1334.6	1333.7	1332.7	1331.9	1331.5	1331.5	1331.5	1331.5	1331.5	1333.2
172.5°	1340.2	1339.2	1338.1	1337.0	1335.9	1335.5	1335.7	1335.8	1336.0	1336.2	1338.0
175°	1346.4	1345.3	1344.2	1343.1	1342.0	1341.5	1341.8	1342.0	1342.2	1342.4	1344.0
177.5°	1348.1	1347.1	1346.3	1345.4	1344.5	1344.1	1344.3	1344.5	1344.6	1344.8	1346.3
180°	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1
2.5°	764.1	765.3	766.5	767.0	766.9	766.7	766.6	766.5
5°	760.1	761.6	763.0	763.6	763.3	763.0	762.8	762.4
7.5°	752.0	753.3	754.7	755.2	755.0	754.8	754.7	754.5
10°	744.6	746.0	747.3	747.8	747.5	747.2	746.9	746.6
12.5°	736.5	737.5	738.5	738.8	738.7	738.5	738.3	738.1
15°	721.9	723.1	724.3	724.4	723.5	722.6	721.8	720.9
17.5°	703.4	704.2	705.1	705.2	705.0	704.6	704.3	704.0
20°	689.7	690.3	690.9	691.0	690.5	690.1	689.7	689.2
22.5°	675.3	675.7	676.2	676.1	675.6	675.0	674.5	673.9
25°	651.3	651.4	651.5	651.4	651.0	650.6	650.1	649.6
27.5°	625.8	625.9	625.9	625.8	625.2	624.7	624.1	623.5
30°	608.1	608.1	608.1	607.6	606.6	605.5	604.5	603.5
32.5°	589.6	588.8	587.9	587.2	586.7	586.2	585.6	585.0
35°	559.5	558.6	557.8	557.0	556.2	555.5	554.7	554.1
37.5°	528.4	527.4	526.3	525.6	525.1	524.6	524.2	523.7
40°	508.2	507.0	505.8	504.9	504.3	503.8	503.2	502.6
42.5°	487.1	485.9	484.7	483.8	483.2	482.7	482.1	481.5
45°	455.6	453.7	452.0	450.7	450.0	449.3	448.6	447.8
47.5°	422.3	420.6	418.9	417.7	417.1	416.4	415.8	415.1
50°	400.5	398.8	397.2	396.0	395.0	394.2	393.3	392.4
52.5°	378.2	376.9	375.5	374.3	373.4	372.6	371.7	370.8
55°	344.3	342.8	341.1	339.9	339.2	338.5	337.8	337.0
57.5°	311.1	309.6	308.2	307.0	306.2	305.4	304.5	303.7
60°	287.6	286.3	284.9	283.9	283.2	282.4	281.7	280.9
62.5°	264.8	263.6	262.3	261.3	260.8	260.4	259.8	259.3
65°	231.1	230.0	228.8	228.0	227.6	227.1	226.7	226.2
67.5°	197.7	196.7	195.6	194.8	194.2	193.6	193.0	192.3
70°	176.0	175.0	174.0	173.1	172.4	171.6	170.9	170.1
72.5°	154.1	153.2	152.3	151.6	151.3	150.8	150.5	150.1
75°	122.5	121.8	121.1	120.5	120.0	119.6	119.2	118.7
77.5°	93.1	92.6	92.0	91.8	91.8	91.8	91.8	91.8
80°	74.2	74.0	74.0	73.9	73.9	73.9	73.9	73.9
82.5°	57.1	56.8	56.6	56.4	56.3	56.1	56.1	56.0
85°	32.4	32.1	31.8	31.7	31.7	31.7	31.7	31.7
87.5°	16.5	16.6	16.6	16.7	16.8	16.9	17.0	17.0
90°	25.7	26.7	27.6	28.2	28.7	29.1	29.5	30.0
92.5°	28.4	29.9	31.3	32.1	32.4	32.7	33.0	33.2
95°	34.1	35.6	37.2	38.0	38.0	38.0	38.0	38.0
97.5°	35.7	37.5	39.3	40.3	40.6	40.8	41.0	41.2
100°	36.6	38.3	40.1	41.2	41.3	41.6	41.8	42.0
102.5°	54.8	49.2	43.7	41.2	41.6	42.0	42.4	42.8
105°	140.3	101.0	61.6	42.3	42.7	43.1	43.6	44.0
107.5°	343.8	315.0	286.1	256.8	227.2	197.5	167.9	138.3
110°	436.4	429.1	421.8	402.3	370.5	338.6	306.9	275.1



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CATALOG NUMBER: S123DIP-S560D1195U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	501.8	502.0	502.1	498.8	492.1	485.3	478.6	471.9
115°	578.6	580.8	583.1	584.6	585.5	586.4	587.3	588.1
117.5°	648.2	650.0	651.7	652.7	652.9	653.1	653.2	653.4
120°	693.8	695.5	697.3	698.2	698.2	698.2	698.2	698.2
122.5°	738.3	739.6	740.8	741.5	741.7	741.8	742.1	742.3
125°	801.2	801.6	802.0	802.5	802.9	803.4	803.8	804.3
127.5°	864.1	864.8	865.5	865.6	865.2	864.8	864.4	863.8
130°	902.1	902.9	903.9	904.0	903.6	903.2	902.8	902.3
132.5°	938.1	939.0	939.9	940.0	939.4	938.7	938.1	937.5
135°	992.6	993.3	994.0	994.0	993.3	992.6	992.0	991.4
137.5°	1041.3	1042.3	1043.4	1043.7	1043.3	1042.8	1042.4	1041.9
140°	1072.1	1073.0	1073.9	1074.1	1073.7	1073.2	1072.8	1072.4
142.5°	1101.4	1102.1	1102.8	1102.9	1102.3	1101.6	1101.0	1100.4
145°	1142.3	1142.7	1143.1	1143.3	1143.3	1143.3	1143.3	1143.3
147.5°	1178.9	1179.3	1179.7	1179.5	1178.5	1177.4	1176.4	1175.4
150°	1201.3	1201.7	1202.1	1202.0	1201.4	1200.8	1200.1	1199.4
152.5°	1221.2	1222.0	1222.8	1222.7	1221.7	1220.6	1219.6	1218.6
155°	1248.6	1249.7	1250.9	1250.7	1249.4	1248.1	1246.7	1245.4
157.5°	1272.5	1273.8	1275.1	1275.0	1273.2	1271.4	1269.7	1268.0
160°	1286.1	1287.4	1288.7	1288.7	1287.1	1285.6	1283.9	1282.4
162.5°	1298.5	1299.9	1301.5	1301.5	1300.1	1298.7	1297.4	1296.0
165°	1315.0	1316.7	1318.5	1318.6	1317.1	1315.5	1314.0	1312.4
167.5°	1327.7	1329.6	1331.4	1331.4	1329.6	1327.7	1326.0	1324.2
170°	1335.0	1336.8	1338.5	1338.5	1336.8	1335.0	1333.2	1331.5
172.5°	1339.8	1341.5	1343.3	1343.2	1341.3	1339.4	1337.4	1335.4
175°	1345.6	1347.1	1348.7	1348.5	1346.8	1345.0	1343.2	1341.4
177.5°	1347.6	1349.1	1350.5	1350.3	1348.6	1346.8	1345.0	1343.2
180°	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4

(END OF REPORT)