

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: P331943

Luminaire Tested: **S123DIP-S560D1025U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331943
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-S560D1025U835-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6419.0 lumens
Efficiency: N/A
Efficacy: 144.2 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

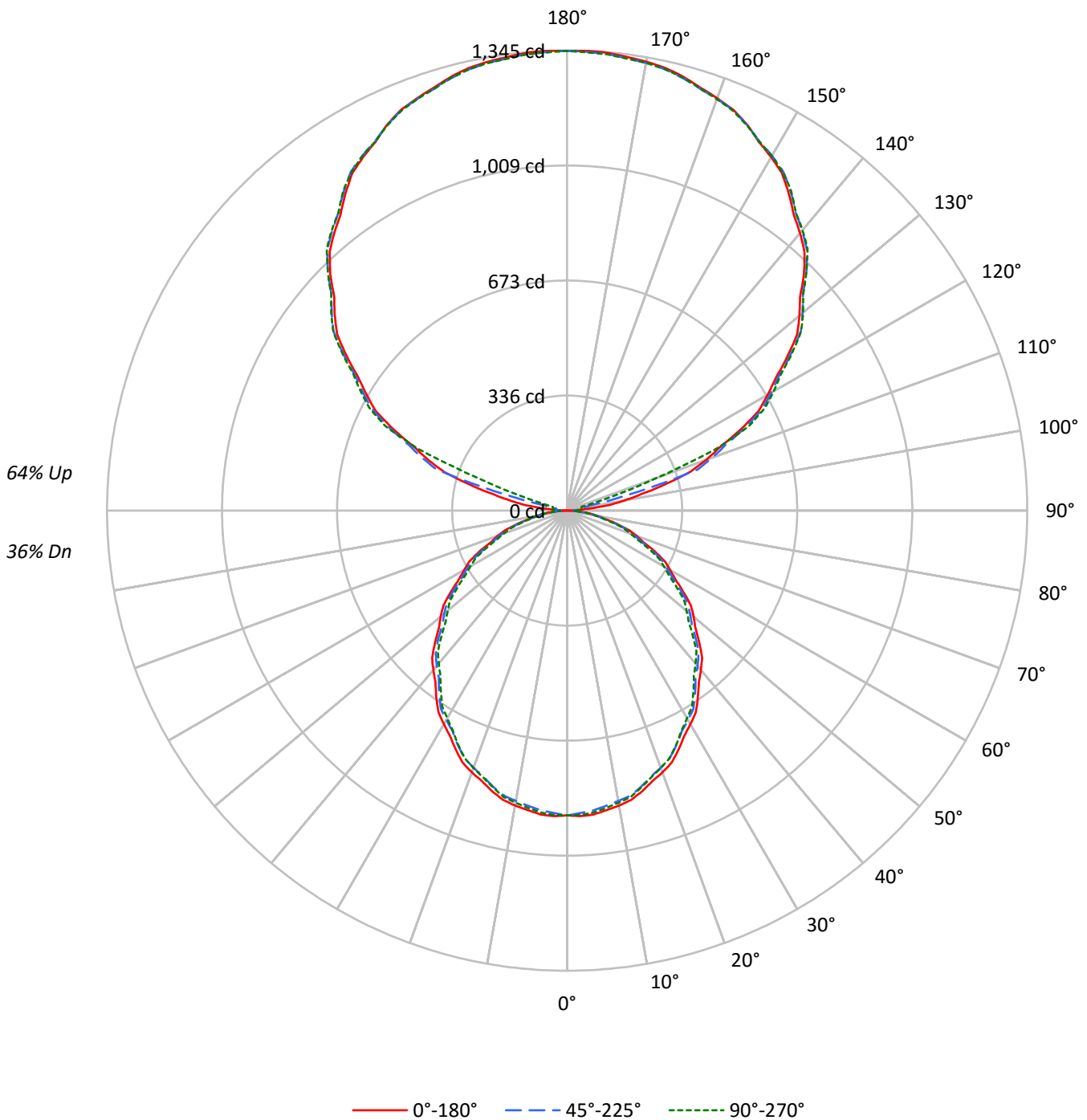
Input Watts (W): 44.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	43	43	43	36
1	95	90	87	83	86	82	79	76	66	64	62	52	50	49	38	37	37	30
2	86	79	73	68	78	72	66	62	58	54	51	45	43	41	34	32	31	25
3	79	69	62	56	71	63	57	52	51	47	43	40	37	34	30	28	26	21
4	72	61	53	48	65	56	49	44	45	40	36	36	32	29	27	24	22	18
5	66	54	46	41	59	50	43	37	40	35	31	32	28	25	24	21	20	16
6	61	49	41	35	55	44	37	32	36	31	27	29	25	22	22	19	17	14
7	56	44	36	31	50	40	33	28	33	28	24	26	22	20	20	17	15	12
8	52	40	32	27	47	36	30	25	30	25	21	24	20	17	18	16	14	11
9	48	36	29	24	44	33	27	22	27	22	19	22	18	16	17	14	12	10
10	45	33	26	21	41	30	24	20	25	20	17	20	17	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9590	9590	9590
5°	9634	9502	9568
10°	9570	9419	9477
15°	9458	9313	9331
20°	9328	9160	9170
25°	9152	8980	8961
30°	8959	8779	8712
35°	8757	8566	8456
40°	8546	8331	8202
45°	8315	8115	7917
50°	8081	7850	7633
55°	7777	7576	7345
60°	7470	7255	7025
65°	7200	6907	6691
70°	6798	6508	6219
75°	6213	5989	5735
80°	5604	5368	5318
85°	4915	4730	4545



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.9	1.3
10°-20°	237.0	3.7
20°-30°	350.0	5.5
30°-40°	408.9	6.4
40°-50°	411.1	6.4
50°-60°	361.1	5.6
60°-70°	269.0	4.2
70°-80°	153.3	2.4
80°-90°	47.8	0.7
90°-100°	48.8	0.8
100°-110°	232.8	3.6
110°-120°	559.2	8.7
120°-130°	712.1	11.1
130°-140°	760.8	11.9
140°-150°	711.5	11.1
150°-160°	573.9	8.9
160°-170°	370.4	5.8
170°-180°	127.6	2.0
0°-30°	670.9	10.5
0°-40°	1079.8	16.8
0°-60°	1851.9	28.9
0°-90°	2321.9	36.2
90°-120°	840.8	13.1
90°-150°	3025.2	47.1
90°-180°	4097.0	63.8
0°-180°	6419.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	891	891	891	891	891	
5°	892	888	879	887	886	84
15°	849	845	836	841	837	239
25°	771	766	756	757	754	355
35°	666	662	652	647	644	417
45°	546	543	533	524	520	421
55°	414	413	404	396	391	371
65°	283	279	271	265	263	279
75°	149	146	144	140	138	160
85°	40	38	38	37	37	44
90°	1	11	24	28	30	5
95°	61	23	31	38	38	75
105°	297	303	219	52	44	315
115°	558	564	573	583	587	551
125°	786	794	798	800	802	702
135°	979	985	989	992	989	754
145°	1130	1137	1139	1141	1141	707
155°	1245	1243	1244	1248	1243	573
165°	1313	1310	1309	1316	1310	371
175°	1344	1339	1340	1346	1338	128
180°	1344	1344	1344	1344	1344	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9
2.5°	893.9	893.4	892.9	892.3	891.8	890.7	889.2	887.7	886.3	884.8	886.1
5°	891.6	890.8	889.9	889.1	888.2	886.9	885.0	883.1	881.3	879.4	881.1
7.5°	882.9	882.1	881.2	880.4	879.5	878.1	876.2	874.2	872.3	870.4	871.9
10°	875.6	874.7	873.9	873.0	872.2	870.6	868.4	866.2	864.0	861.8	863.3
12.5°	865.8	865.0	864.3	863.6	862.9	861.5	859.4	857.3	855.3	853.2	854.3
15°	848.7	848.1	847.4	846.7	846.0	844.6	842.4	840.2	837.9	835.7	837.1
17.5°	829.0	828.1	827.2	826.3	825.4	823.9	821.7	819.5	817.3	815.0	816.0
20°	814.3	813.3	812.2	811.2	810.2	808.6	806.4	804.2	801.9	799.7	800.4
22.5°	797.7	796.7	795.7	794.7	793.6	792.0	789.8	787.6	785.4	783.2	783.7
25°	770.6	769.6	768.6	767.6	766.5	764.9	762.7	760.5	758.3	756.1	756.2
27.5°	741.7	740.7	739.7	738.7	737.7	736.0	733.6	731.3	728.9	726.5	726.6
30°	720.8	720.0	719.1	718.3	717.4	715.8	713.4	711.0	708.7	706.3	706.3
32.5°	700.0	698.9	697.7	696.6	695.5	694.0	692.2	690.3	688.5	686.7	685.7
35°	666.4	665.4	664.4	663.4	662.4	660.7	658.5	656.3	654.1	651.9	650.9
37.5°	632.1	630.8	629.5	628.2	626.9	625.2	622.9	620.7	618.4	616.2	615.0
40°	608.2	607.2	606.2	605.2	604.1	602.4	600.0	597.7	595.3	592.9	591.5
42.5°	584.3	583.2	582.0	580.8	579.7	577.9	575.5	573.2	570.8	568.4	567.0
45°	546.2	545.5	544.8	544.1	543.4	542.0	539.8	537.6	535.4	533.1	531.1
47.5°	508.3	507.3	506.4	505.4	504.4	502.8	500.8	498.7	496.6	494.5	492.5
50°	482.6	481.7	480.9	480.0	479.2	477.7	475.4	473.2	471.0	468.8	466.9
52.5°	455.6	455.0	454.5	453.9	453.3	451.8	449.5	447.2	444.8	442.5	440.9
55°	414.4	414.2	414.1	413.9	413.7	412.5	410.3	408.1	405.9	403.7	401.8
57.5°	375.2	374.6	374.0	373.5	372.9	371.7	369.9	368.2	366.4	364.6	363.0
60°	347.0	346.8	346.7	346.5	346.3	345.2	343.2	341.1	339.1	337.0	335.5
62.5°	321.9	321.4	321.0	320.6	320.1	318.9	316.8	314.8	312.7	310.7	309.2
65°	282.7	281.8	281.0	280.1	279.3	278.0	276.3	274.6	272.9	271.2	269.8
67.5°	241.1	240.4	239.6	238.9	238.1	237.1	235.8	234.5	233.2	232.0	230.8
70°	216.0	215.0	214.0	213.0	211.9	210.9	209.9	208.9	207.8	206.8	205.6
72.5°	189.7	188.9	188.2	187.4	186.7	185.7	184.6	183.4	182.2	181.1	180.0
75°	149.4	148.7	148.0	147.3	146.7	146.1	145.5	145.0	144.5	144.0	143.2
77.5°	113.7	113.3	112.9	112.6	112.2	111.7	111.1	110.5	109.8	109.2	108.7
80°	90.4	89.9	89.4	88.9	88.3	87.9	87.6	87.2	86.9	86.6	86.4
82.5°	67.7	67.6	67.5	67.4	67.3	67.2	67.2	67.1	67.0	67.0	66.6
85°	39.8	39.5	39.2	38.8	38.5	38.3	38.3	38.3	38.3	38.3	38.0
87.5°	16.1	16.2	16.2	16.2	16.3	16.5	17.0	17.4	17.8	18.3	18.3
90°	1.0	3.2	5.4	7.7	9.9	12.4	15.3	18.2	21.1	24.0	24.8
92.5°	18.6	17.9	17.3	16.7	16.1	16.9	19.0	21.2	23.4	25.6	27.0
95°	60.9	51.8	42.7	33.6	24.5	21.2	23.6	26.1	28.5	30.9	32.5
97.5°	122.4	118.3	114.2	110.1	106.0	96.0	80.1	64.1	48.1	32.1	33.9
100°	168.7	173.1	177.6	182.0	186.4	171.3	136.7	102.1	67.5	32.9	34.7
102.5°	221.4	224.6	227.8	231.0	234.2	216.9	179.1	141.3	103.5	65.7	60.2
105°	297.4	299.9	302.3	304.8	307.2	298.4	278.5	258.5	238.6	218.6	179.3
107.5°	377.7	379.7	381.6	383.6	385.5	388.1	391.2	394.4	397.5	400.7	371.9
110°	431.2	433.0	434.7	436.5	438.3	440.4	442.8	445.3	447.7	450.2	442.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	482.3	483.9	485.5	487.1	488.7	490.7	493.2	495.6	498.0	500.5	500.6
115°	558.0	559.3	560.6	562.0	563.3	565.0	566.9	568.9	570.9	572.9	575.2
117.5°	631.2	632.9	634.5	636.2	637.8	639.1	640.1	641.2	642.2	643.2	645.0
120°	676.7	678.7	680.7	682.7	684.7	686.1	686.7	687.4	688.1	688.7	690.5
122.5°	723.1	724.7	726.3	728.0	729.6	730.9	731.7	732.6	733.4	734.2	735.5
125°	786.5	788.3	790.1	791.9	793.6	795.0	795.9	796.7	797.6	798.5	799.0
127.5°	848.0	849.8	851.6	853.3	855.1	856.5	857.6	858.7	859.7	860.8	861.5
130°	886.4	888.1	889.9	891.7	893.5	894.8	895.7	896.6	897.4	898.3	899.2
132.5°	923.1	924.9	926.6	928.4	930.2	931.4	932.1	932.8	933.6	934.3	935.2
135°	979.2	980.5	981.8	983.2	984.5	985.6	986.5	987.4	988.3	989.2	989.8
137.5°	1027.1	1028.8	1030.5	1032.2	1033.8	1034.9	1035.4	1035.9	1036.4	1036.9	1037.9
140°	1059.0	1060.4	1061.7	1063.0	1064.4	1065.4	1066.0	1066.7	1067.4	1068.0	1068.9
142.5°	1088.6	1089.9	1091.2	1092.6	1093.9	1094.9	1095.6	1096.2	1096.9	1097.6	1098.3
145°	1129.9	1131.5	1133.0	1134.6	1136.1	1137.1	1137.6	1138.0	1138.4	1138.9	1139.3
147.5°	1168.8	1169.9	1170.9	1171.9	1172.9	1173.6	1174.1	1174.5	1175.0	1175.4	1175.9
150°	1192.8	1193.5	1194.1	1194.8	1195.4	1196.0	1196.4	1196.9	1197.3	1197.8	1198.2
152.5°	1214.3	1214.7	1215.0	1215.3	1215.6	1215.9	1216.1	1216.4	1216.7	1216.9	1217.7
155°	1244.7	1244.2	1243.8	1243.4	1242.9	1242.8	1243.0	1243.2	1243.5	1243.7	1244.8
157.5°	1268.2	1268.2	1268.2	1268.1	1268.1	1267.9	1267.7	1267.5	1267.3	1267.0	1268.4
160°	1282.6	1282.4	1282.2	1282.0	1281.7	1281.5	1281.3	1281.1	1280.8	1280.6	1282.0
162.5°	1296.2	1295.6	1295.0	1294.5	1293.9	1293.5	1293.3	1293.0	1292.8	1292.6	1294.1
165°	1312.6	1311.9	1311.2	1310.6	1309.9	1309.5	1309.2	1309.0	1308.8	1308.6	1310.3
167.5°	1325.3	1324.5	1323.6	1322.7	1321.8	1321.3	1321.3	1321.3	1321.3	1321.3	1323.1
170°	1332.5	1331.6	1330.8	1329.9	1329.0	1328.5	1328.5	1328.5	1328.5	1328.5	1330.3
172.5°	1337.3	1336.3	1335.2	1334.1	1333.1	1332.6	1332.8	1333.0	1333.1	1333.3	1335.1
175°	1343.5	1342.4	1341.3	1340.2	1339.1	1338.6	1338.8	1339.1	1339.3	1339.5	1341.1
177.5°	1345.1	1344.2	1343.3	1342.4	1341.6	1341.2	1341.4	1341.6	1341.7	1341.9	1343.3
180°	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9
2.5°	887.5	888.8	890.2	890.8	890.7	890.5	890.4	890.3
5°	882.8	884.5	886.2	886.9	886.5	886.2	885.9	885.5
7.5°	873.4	874.9	876.5	877.1	876.9	876.7	876.5	876.3
10°	864.8	866.4	867.9	868.5	868.2	867.8	867.5	867.1
12.5°	855.4	856.6	857.7	858.1	857.9	857.7	857.5	857.3
15°	838.5	839.8	841.2	841.3	840.3	839.3	838.3	837.3
17.5°	817.0	817.9	818.9	819.1	818.8	818.4	818.0	817.6
20°	801.1	801.8	802.4	802.5	802.0	801.5	801.0	800.5
22.5°	784.3	784.8	785.4	785.3	784.7	784.0	783.4	782.7
25°	756.4	756.6	756.7	756.6	756.1	755.6	755.0	754.5
27.5°	726.8	726.9	727.0	726.8	726.1	725.5	724.8	724.2
30°	706.3	706.3	706.3	705.7	704.5	703.3	702.1	700.9
32.5°	684.8	683.8	682.8	682.0	681.4	680.8	680.1	679.5
35°	649.8	648.8	647.8	646.9	646.0	645.2	644.3	643.5
37.5°	613.7	612.5	611.3	610.4	609.9	609.3	608.8	608.2
40°	590.2	588.8	587.5	586.4	585.7	585.1	584.4	583.7
42.5°	565.7	564.3	562.9	561.9	561.2	560.6	559.9	559.2
45°	529.1	527.0	525.0	523.5	522.7	521.8	521.0	520.1
47.5°	490.5	488.5	486.5	485.1	484.4	483.6	482.9	482.1
50°	465.1	463.2	461.3	459.9	458.8	457.8	456.8	455.8
52.5°	439.3	437.7	436.1	434.7	433.7	432.7	431.7	430.7
55°	399.9	398.1	396.2	394.8	394.0	393.1	392.3	391.4
57.5°	361.3	359.6	358.0	356.6	355.6	354.7	353.7	352.7
60°	334.0	332.5	330.9	329.7	328.9	328.0	327.2	326.3
62.5°	307.6	306.1	304.6	303.5	302.9	302.4	301.8	301.2
65°	268.4	267.1	265.7	264.8	264.3	263.8	263.3	262.7
67.5°	229.6	228.4	227.2	226.2	225.5	224.8	224.1	223.4
70°	204.4	203.3	202.1	201.0	200.2	199.3	198.5	197.6
72.5°	179.0	177.9	176.9	176.1	175.7	175.2	174.8	174.3
75°	142.3	141.5	140.6	139.9	139.4	138.9	138.4	137.9
77.5°	108.1	107.5	106.9	106.6	106.6	106.6	106.6	106.6
80°	86.2	86.0	85.9	85.8	85.8	85.8	85.8	85.8
82.5°	66.3	66.0	65.7	65.5	65.4	65.2	65.1	65.0
85°	37.6	37.3	36.9	36.8	36.8	36.8	36.8	36.8
87.5°	18.4	18.4	18.4	18.5	18.6	18.7	18.8	18.9
90°	25.7	26.6	27.5	28.2	28.6	29.1	29.5	29.9
92.5°	28.4	29.8	31.2	32.1	32.3	32.6	32.9	33.1
95°	34.0	35.6	37.2	37.9	37.9	37.9	37.9	37.9
97.5°	35.7	37.5	39.2	40.2	40.5	40.7	40.9	41.1
100°	36.5	38.3	40.0	41.0	41.3	41.5	41.7	41.9
102.5°	54.7	49.2	43.7	41.1	41.5	41.9	42.3	42.7
105°	140.1	100.8	61.6	42.1	42.6	43.0	43.5	43.9
107.5°	343.1	314.3	285.5	256.3	226.7	197.1	167.5	137.9
110°	435.5	428.2	420.9	401.4	369.6	337.9	306.2	274.5



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CATALOG NUMBER: S123DIP-S560D1025U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	500.7	500.9	501.0	497.7	491.0	484.3	477.6	470.9
115°	577.4	579.6	581.8	583.4	584.2	585.1	586.0	586.9
117.5°	646.8	648.5	650.3	651.3	651.5	651.6	651.8	652.0
120°	692.3	694.0	695.8	696.7	696.7	696.7	696.7	696.7
122.5°	736.7	738.0	739.2	739.9	740.1	740.3	740.4	740.6
125°	799.4	799.8	800.3	800.7	801.2	801.6	802.1	802.5
127.5°	862.2	862.9	863.6	863.8	863.3	862.9	862.4	862.0
130°	900.1	901.0	901.9	902.1	901.7	901.2	900.8	900.3
132.5°	936.0	936.9	937.8	937.9	937.3	936.7	936.1	935.5
135°	990.5	991.2	991.8	991.8	991.2	990.5	989.8	989.2
137.5°	1039.0	1040.1	1041.1	1041.4	1041.0	1040.6	1040.1	1039.7
140°	1069.8	1070.7	1071.6	1071.8	1071.3	1070.9	1070.5	1070.0
142.5°	1099.0	1099.7	1100.4	1100.4	1099.8	1099.2	1098.6	1098.0
145°	1139.8	1140.2	1140.7	1140.9	1140.9	1140.9	1140.9	1140.9
147.5°	1176.3	1176.7	1177.2	1176.9	1175.9	1174.9	1173.8	1172.8
150°	1198.7	1199.1	1199.6	1199.4	1198.8	1198.1	1197.4	1196.8
152.5°	1218.5	1219.3	1220.1	1220.0	1219.0	1218.0	1217.0	1215.9
155°	1245.9	1247.0	1248.1	1248.0	1246.7	1245.4	1244.0	1242.7
157.5°	1269.7	1271.0	1272.4	1272.2	1270.4	1268.7	1267.0	1265.3
160°	1283.3	1284.6	1285.9	1285.8	1284.3	1282.7	1281.2	1279.6
162.5°	1295.6	1297.1	1298.6	1298.7	1297.3	1295.9	1294.6	1293.2
165°	1312.1	1313.9	1315.7	1315.8	1314.2	1312.7	1311.1	1309.6
167.5°	1324.9	1326.7	1328.4	1328.4	1326.7	1324.9	1323.1	1321.3
170°	1332.1	1333.9	1335.6	1335.6	1333.9	1332.1	1330.3	1328.5
172.5°	1336.9	1338.6	1340.4	1340.3	1338.4	1336.4	1334.5	1332.5
175°	1342.6	1344.2	1345.7	1345.6	1343.8	1342.1	1340.3	1338.5
177.5°	1344.7	1346.2	1347.6	1347.4	1345.6	1343.9	1342.1	1340.3
180°	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5

(END OF REPORT)