

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: P331940-840

Luminaire Tested: **S123DIP-S560D1025U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331940-840
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-S560D1025U840-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6527.6 lumens
Efficiency: N/A
Efficacy: 146.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

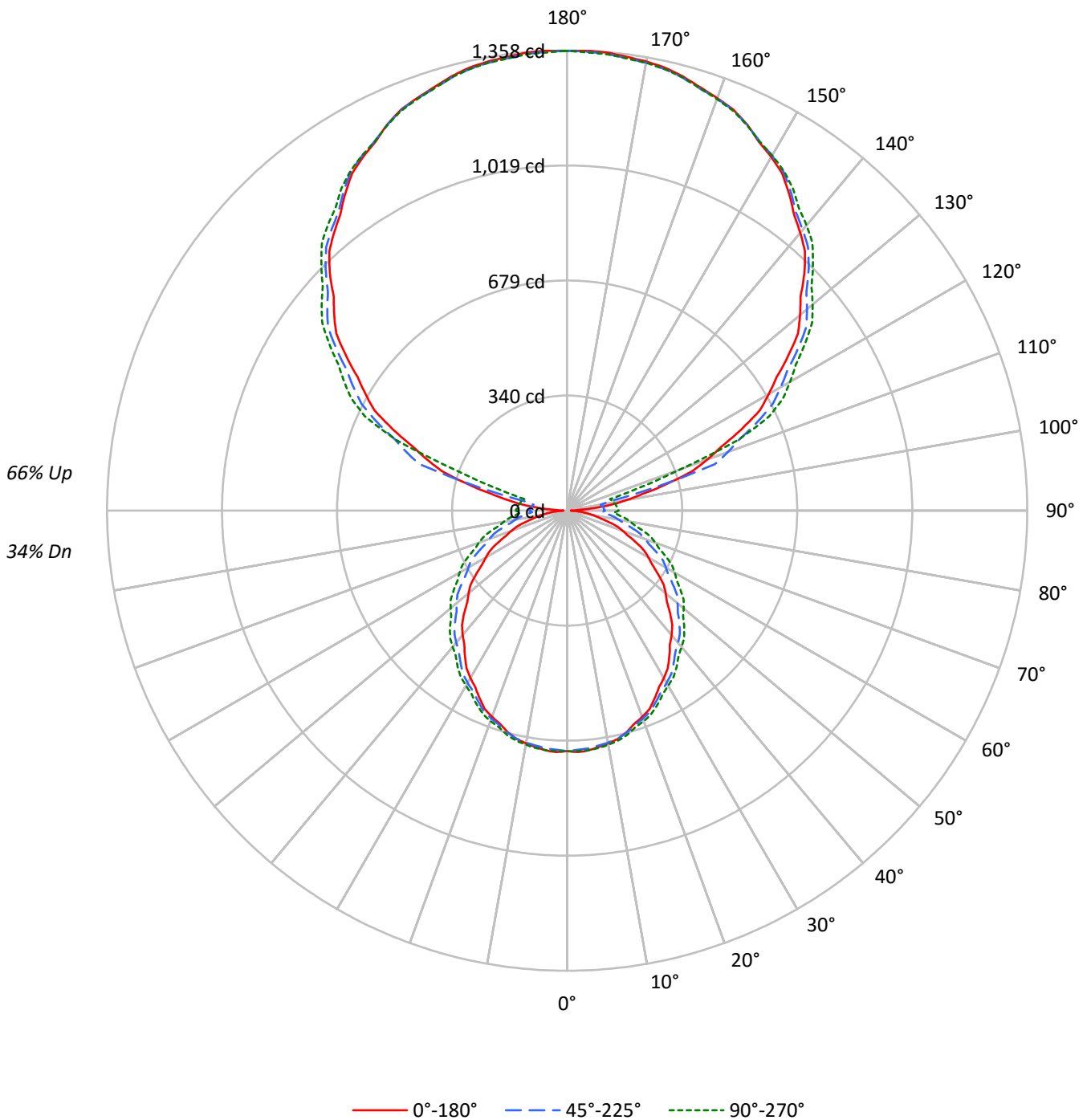
Input Watts (W): 44.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	57	57	57	41	41	41	34
1	93	89	85	81	84	80	77	74	64	61	59	49	47	46	35	34	33	27
2	85	77	71	66	76	70	64	60	56	52	48	42	40	38	30	29	27	22
3	77	68	60	54	69	61	55	50	49	44	40	37	34	32	27	25	23	18
4	70	60	52	46	63	54	47	42	43	38	34	33	30	27	24	21	20	15
5	64	53	45	39	58	48	41	36	38	33	29	30	26	23	21	19	17	13
6	59	47	39	33	53	43	36	31	34	29	25	27	23	20	19	17	15	12
7	55	42	35	29	49	39	32	27	31	26	22	24	20	18	18	15	13	10
8	51	38	31	25	45	35	28	23	28	23	19	22	18	16	16	14	12	9
9	47	35	28	23	42	32	25	21	26	21	17	20	16	14	15	12	10	8
10	44	32	25	20	39	29	23	19	24	19	15	19	15	12	14	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7643	7643	7643
5°	7667	7451	7455
10°	7599	7280	7244
15°	7501	7084	7012
20°	7361	6862	6756
25°	7189	6606	6489
30°	7011	6375	6216
35°	6812	6132	6000
40°	6623	5910	5767
45°	6414	5697	5582
50°	6206	5488	5378
55°	5978	5271	5194
60°	5753	5053	5005
65°	5525	4819	4780
70°	5183	4558	4549
75°	4746	4256	4316
80°	4241	3962	4047
85°	3780	3757	3892



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.3	1.0
10°-20°	191.9	2.9
20°-30°	287.0	4.4
30°-40°	342.8	5.3
40°-50°	358.6	5.5
50°-60°	336.5	5.2
60°-70°	281.1	4.3
70°-80°	201.1	3.1
80°-90°	123.7	1.9
90°-100°	124.6	1.9
100°-110°	290.4	4.4
110°-120°	601.6	9.2
120°-130°	740.2	11.3
130°-140°	777.8	11.9
140°-150°	720.5	11.0
150°-160°	579.6	8.9
160°-170°	374.0	5.7
170°-180°	128.9	2.0
0°-30°	546.3	8.4
0°-40°	889.0	13.6
0°-60°	1584.2	24.3
0°-90°	2190.1	33.6
90°-120°	1016.6	15.6
90°-150°	3255.1	49.9
90°-180°	4338.0	66.5
0°-180°	6527.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	710	710	710	710	710	
5°	711	709	705	710	710	67
15°	677	679	678	686	685	191
25°	611	619	621	631	631	282
35°	526	538	548	560	563	329
45°	430	449	468	482	489	332
55°	328	354	381	401	408	294
65°	227	257	291	313	322	224
75°	123	160	198	223	233	131
85°	38	77	118	143	152	40
90°	11	59	112	141	152	10
95°	70	62	108	138	147	83
105°	307	331	279	131	131	325
115°	567	584	620	647	658	560
125°	797	806	831	849	857	711
135°	990	996	1008	1024	1026	762
145°	1142	1148	1150	1158	1161	714
155°	1257	1255	1256	1260	1255	579
165°	1326	1323	1322	1329	1322	374
175°	1357	1352	1353	1359	1352	129
180°	1357	1357	1357	1357	1357	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1
2.5°	713.3	712.9	712.5	712.0	711.6	710.8	709.7	708.6	707.5	706.4	707.5
5°	710.9	710.5	710.2	709.9	709.5	708.8	707.8	706.8	705.8	704.7	706.1
7.5°	704.0	704.0	704.1	704.2	704.3	703.8	702.8	701.8	700.7	699.7	701.5
10°	697.8	698.1	698.4	698.8	699.1	698.9	698.0	697.2	696.3	695.5	697.2
12.5°	690.3	690.8	691.4	691.8	692.3	692.3	691.7	691.1	690.4	689.8	691.5
15°	676.9	677.4	677.9	678.4	678.9	679.1	678.9	678.7	678.6	678.4	680.1
17.5°	659.8	660.9	662.0	663.0	664.0	664.5	664.4	664.3	664.3	664.2	665.7
20°	647.5	648.5	649.5	650.6	651.6	652.3	652.7	653.0	653.3	653.7	655.2
22.5°	634.5	635.5	636.5	637.6	638.6	639.3	639.9	640.4	640.9	641.3	643.3
25°	611.2	612.9	614.6	616.3	618.0	619.1	619.7	620.2	620.7	621.2	623.4
27.5°	587.6	589.6	591.6	593.5	595.4	596.9	598.0	599.2	600.3	601.4	603.3
30°	570.9	573.1	575.3	577.6	579.9	581.7	583.0	584.4	585.7	587.1	589.3
32.5°	552.3	554.8	557.3	559.9	562.4	564.5	566.3	568.0	569.9	571.7	573.9
35°	526.0	528.8	531.5	534.3	537.0	539.6	541.8	544.0	546.2	548.5	551.1
37.5°	498.2	501.3	504.3	507.5	510.6	513.5	516.2	519.0	521.7	524.5	527.5
40°	479.6	482.7	485.8	488.9	492.0	495.2	498.7	502.1	505.5	509.0	511.9
42.5°	459.2	463.0	466.8	470.5	474.3	478.0	481.6	485.1	488.8	492.3	495.5
45°	430.1	434.2	438.4	442.5	446.6	450.8	455.1	459.4	463.7	468.0	471.3
47.5°	399.6	404.3	409.0	413.6	418.3	423.1	428.1	432.9	437.9	442.8	446.5
50°	379.8	384.7	389.4	394.3	399.1	404.1	409.5	414.9	420.1	425.5	429.4
52.5°	358.8	363.9	369.0	374.1	379.1	384.7	390.5	396.4	402.2	408.2	412.2
55°	328.0	333.7	339.3	345.0	350.7	356.6	362.8	369.0	375.2	381.3	386.0
57.5°	298.0	303.9	309.8	315.7	321.6	328.0	334.8	341.5	348.3	355.1	359.7
60°	276.9	283.2	289.3	295.5	301.6	308.3	315.4	322.4	329.4	336.5	341.3
62.5°	257.1	263.5	269.8	276.1	282.5	289.3	296.8	304.3	311.7	319.2	324.0
65°	226.6	233.4	240.0	246.8	253.5	260.6	268.2	275.7	283.3	290.8	296.0
67.5°	195.7	202.9	210.0	217.0	224.2	231.6	239.3	247.0	254.7	262.4	268.0
70°	174.1	181.5	188.8	196.2	203.6	211.5	219.6	227.9	236.2	244.5	249.9
72.5°	154.2	161.7	169.1	176.4	183.8	191.8	200.3	208.8	217.3	225.9	231.6
75°	123.0	131.1	139.2	147.2	155.3	163.7	172.3	180.9	189.5	198.0	203.7
77.5°	95.7	103.9	112.1	120.2	128.4	136.7	145.4	154.1	162.8	171.5	177.4
80°	76.5	85.0	93.4	101.9	110.3	119.0	127.8	136.8	145.8	154.7	160.6
82.5°	59.9	68.5	77.0	85.5	94.1	102.9	112.0	121.1	130.2	139.3	145.1
85°	37.9	46.5	55.1	63.7	72.3	81.1	90.3	99.4	108.5	117.5	123.4
87.5°	20.8	29.8	38.8	47.8	56.9	65.9	75.3	84.7	94.0	103.4	109.4
90°	11.1	21.7	32.4	43.0	53.7	64.9	76.5	88.3	100.0	111.6	118.4
92.5°	28.2	35.1	42.1	49.1	56.0	64.9	75.8	86.6	97.5	108.3	115.4
95°	70.0	67.6	65.0	62.5	60.1	64.3	75.1	86.0	96.9	107.9	114.7
97.5°	131.2	133.1	135.0	136.9	138.9	135.8	127.7	119.7	111.6	103.5	110.4
100°	177.3	187.3	197.2	207.2	217.2	208.7	181.7	154.6	127.6	100.6	107.3
102.5°	229.9	238.1	246.3	254.5	262.7	251.6	221.2	190.7	160.3	129.9	129.2
105°	306.6	313.2	319.7	326.4	333.0	329.8	317.1	304.3	291.5	278.7	244.0
107.5°	386.7	392.1	397.7	403.1	408.6	416.5	426.7	436.9	447.1	457.2	432.7
110°	440.1	444.9	449.9	454.7	459.6	466.8	476.1	485.4	494.7	504.1	501.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	491.7	495.8	500.0	504.1	508.4	514.9	524.0	533.1	542.1	551.2	555.6
115°	567.3	570.8	574.1	577.5	581.0	586.7	595.0	603.2	611.4	619.6	625.9
117.5°	641.2	644.1	647.0	649.9	652.9	657.7	664.6	671.5	678.3	685.1	691.1
120°	686.5	689.4	692.3	695.1	698.0	702.7	708.9	715.3	721.6	728.0	733.8
122.5°	733.3	735.4	737.5	739.6	741.7	745.9	752.1	758.4	764.7	770.8	776.0
125°	796.6	798.4	800.2	802.0	803.8	807.6	813.5	819.4	825.3	831.1	835.2
127.5°	858.7	860.3	861.9	863.5	865.2	868.6	873.8	879.0	884.2	889.4	893.5
130°	897.5	899.1	900.7	902.3	903.9	906.9	911.2	915.5	919.9	924.2	928.4
132.5°	933.9	935.6	937.5	939.2	940.9	943.5	947.1	950.5	953.9	957.5	961.4
135°	990.4	991.6	992.7	993.9	995.1	997.0	999.9	1002.6	1005.4	1008.2	1012.0
137.5°	1038.6	1040.2	1041.8	1043.3	1044.9	1046.4	1048.0	1049.6	1051.1	1052.7	1056.4
140°	1070.3	1071.6	1073.0	1074.3	1075.6	1076.9	1078.1	1079.2	1080.5	1081.7	1085.1
142.5°	1100.0	1101.3	1102.5	1103.7	1104.9	1105.9	1106.7	1107.4	1108.2	1109.0	1112.1
145°	1141.9	1143.3	1144.6	1146.0	1147.4	1148.3	1148.8	1149.2	1149.6	1150.1	1152.0
147.5°	1180.3	1181.4	1182.5	1183.5	1184.5	1185.2	1185.7	1186.1	1186.6	1187.0	1187.9
150°	1204.6	1205.3	1205.9	1206.6	1207.2	1207.8	1208.2	1208.7	1209.1	1209.6	1210.0
152.5°	1226.3	1226.7	1227.0	1227.3	1227.6	1227.9	1228.1	1228.4	1228.7	1228.9	1229.7
155°	1257.0	1256.5	1256.1	1255.7	1255.2	1255.1	1255.3	1255.5	1255.8	1256.0	1257.1
157.5°	1280.7	1280.7	1280.7	1280.6	1280.6	1280.4	1280.2	1280.0	1279.8	1279.5	1280.9
160°	1295.3	1295.1	1294.8	1294.6	1294.3	1294.1	1293.9	1293.7	1293.4	1293.2	1294.6
162.5°	1309.0	1308.4	1307.8	1307.3	1306.7	1306.3	1306.1	1305.8	1305.6	1305.4	1306.9
165°	1325.5	1324.8	1324.1	1323.5	1322.8	1322.4	1322.1	1321.9	1321.7	1321.5	1323.2
167.5°	1338.4	1337.6	1336.7	1335.7	1334.8	1334.3	1334.3	1334.3	1334.3	1334.3	1336.2
170°	1345.6	1344.7	1343.9	1343.0	1342.1	1341.6	1341.6	1341.6	1341.6	1341.6	1343.4
172.5°	1350.5	1349.5	1348.4	1347.3	1346.3	1345.7	1345.9	1346.2	1346.3	1346.5	1348.3
175°	1356.8	1355.6	1354.5	1353.4	1352.3	1351.8	1352.0	1352.3	1352.5	1352.7	1354.3
177.5°	1358.4	1357.5	1356.6	1355.6	1354.8	1354.4	1354.6	1354.8	1354.9	1355.1	1356.6
180°	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1
2.5°	708.6	709.7	710.8	711.3	711.1	711.0	710.9	710.7
5°	707.5	708.8	710.2	710.8	710.6	710.4	710.3	710.1
7.5°	703.2	704.9	706.7	707.4	707.2	707.0	706.8	706.6
10°	698.9	700.6	702.4	703.0	702.7	702.4	702.0	701.7
12.5°	693.1	694.6	696.2	696.8	696.5	696.1	695.8	695.5
15°	681.9	683.6	685.3	686.1	685.9	685.7	685.6	685.4
17.5°	667.3	668.8	670.3	671.1	670.8	670.6	670.3	670.0
20°	656.8	658.3	659.8	660.8	660.9	661.1	661.3	661.4
22.5°	645.2	647.2	649.1	650.1	649.9	649.8	649.7	649.6
25°	625.6	627.9	630.2	631.3	631.3	631.3	631.3	631.3
27.5°	605.2	607.1	609.0	610.2	610.3	610.4	610.6	610.7
30°	591.3	593.3	595.4	596.4	596.4	596.4	596.4	596.4
32.5°	576.0	578.2	580.5	581.8	582.2	582.6	583.0	583.4
35°	553.6	556.2	558.8	560.4	561.1	561.8	562.5	563.2
37.5°	530.3	533.2	536.1	538.0	538.5	539.0	539.6	540.1
40°	514.8	517.8	520.7	522.5	523.2	523.9	524.5	525.2
42.5°	498.7	501.9	505.1	507.2	508.2	509.1	510.1	511.0
45°	474.5	477.8	481.1	483.4	484.7	486.1	487.6	488.9
47.5°	450.2	453.8	457.5	459.9	460.9	462.0	463.1	464.1
50°	433.3	437.4	441.3	443.8	445.0	446.3	447.5	448.7
52.5°	416.4	420.4	424.5	427.3	428.8	430.2	431.7	433.2
55°	390.6	395.3	399.9	402.9	404.3	405.7	407.1	408.5
57.5°	364.5	369.1	373.8	376.9	378.5	380.1	381.7	383.3
60°	346.2	350.9	355.8	359.1	361.0	362.8	364.8	366.7
62.5°	328.8	333.7	338.4	341.7	343.5	345.2	347.0	348.7
65°	301.1	306.3	311.5	315.0	316.7	318.4	320.1	321.8
67.5°	273.7	279.3	285.0	288.5	289.9	291.3	292.9	294.3
70°	255.5	260.9	266.5	270.0	271.8	273.5	275.2	276.9
72.5°	237.1	242.8	248.4	252.2	253.9	255.6	257.3	259.0
75°	209.3	215.1	220.8	224.6	226.6	228.7	230.8	232.9
77.5°	183.4	189.3	195.3	199.1	200.8	202.3	203.9	205.5
80°	166.4	172.3	178.1	181.9	183.6	185.3	187.0	188.7
82.5°	151.0	156.7	162.6	166.4	168.1	169.9	171.6	173.3
85°	129.3	135.1	141.0	144.7	146.4	148.1	149.9	151.6
87.5°	115.4	121.5	127.4	131.4	133.2	135.0	136.8	138.7
90°	125.1	131.8	138.6	143.0	145.2	147.3	149.6	151.7
92.5°	122.6	129.7	136.8	141.3	143.2	145.0	146.8	148.8
95°	121.6	128.6	135.4	139.8	141.5	143.2	144.9	146.6
97.5°	117.3	124.2	131.2	135.5	137.5	139.5	141.4	143.3
100°	114.1	120.9	127.6	132.0	134.0	135.9	137.8	139.8
102.5°	128.5	127.7	127.0	127.7	129.9	132.0	134.1	136.2
105°	209.1	174.3	139.5	123.0	125.0	127.0	129.0	131.0
107.5°	408.3	383.8	359.3	333.0	304.6	276.2	247.8	219.4
110°	498.3	495.3	492.4	475.6	444.9	414.3	383.6	353.0



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CATALOG NUMBER: S123DIP-S560D1025U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	560.2	564.6	569.1	568.7	563.4	558.2	552.9	547.6
115°	632.3	638.6	645.0	649.3	651.7	653.9	656.2	658.4
117.5°	696.9	702.8	708.6	712.4	713.9	715.4	716.9	718.4
120°	739.5	745.3	751.0	754.5	755.7	756.9	758.1	759.3
122.5°	781.0	786.1	791.1	794.4	795.8	797.2	798.5	799.9
125°	839.3	843.3	847.4	850.2	851.9	853.5	855.2	856.9
127.5°	897.7	901.8	905.8	908.3	909.1	909.8	910.5	911.2
130°	932.5	936.6	940.9	943.2	943.8	944.4	945.0	945.5
132.5°	965.4	969.5	973.5	975.8	976.3	976.8	977.4	978.0
135°	1015.7	1019.5	1023.3	1025.2	1025.4	1025.6	1025.8	1026.0
137.5°	1060.3	1064.1	1067.8	1070.0	1070.4	1070.8	1071.2	1071.6
140°	1088.6	1092.1	1095.5	1097.5	1097.9	1098.3	1098.7	1099.1
142.5°	1115.1	1118.0	1121.1	1122.7	1123.0	1123.2	1123.4	1123.7
145°	1153.8	1155.6	1157.4	1158.7	1159.3	1160.0	1160.7	1161.4
147.5°	1188.7	1189.6	1190.4	1190.6	1190.2	1189.8	1189.4	1189.0
150°	1210.5	1210.9	1211.4	1211.4	1211.1	1210.8	1210.4	1210.1
152.5°	1230.5	1231.3	1232.1	1232.1	1231.1	1230.2	1229.2	1228.2
155°	1258.2	1259.3	1260.4	1260.3	1259.0	1257.7	1256.3	1255.0
157.5°	1282.2	1283.5	1285.0	1284.8	1282.9	1281.2	1279.5	1277.8
160°	1296.0	1297.3	1298.6	1298.5	1297.0	1295.4	1293.8	1292.2
162.5°	1308.4	1309.9	1311.4	1311.5	1310.1	1308.7	1307.4	1306.0
165°	1325.0	1326.9	1328.7	1328.8	1327.2	1325.6	1324.0	1322.5
167.5°	1338.0	1339.8	1341.5	1341.5	1339.8	1338.0	1336.2	1334.3
170°	1345.2	1347.1	1348.8	1348.8	1347.1	1345.2	1343.4	1341.6
172.5°	1350.1	1351.8	1353.6	1353.5	1351.6	1349.6	1347.7	1345.6
175°	1355.8	1357.5	1359.0	1358.9	1357.1	1355.3	1353.5	1351.7
177.5°	1358.0	1359.5	1360.9	1360.7	1358.9	1357.2	1355.3	1353.5
180°	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8

(END OF REPORT)