

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: P331949-830

Luminaire Tested: **S123DIP-S560D1195U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331949-830
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-S560D1195U830-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6726.3 lumens
Efficiency: N/A
Efficacy: 136.2 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

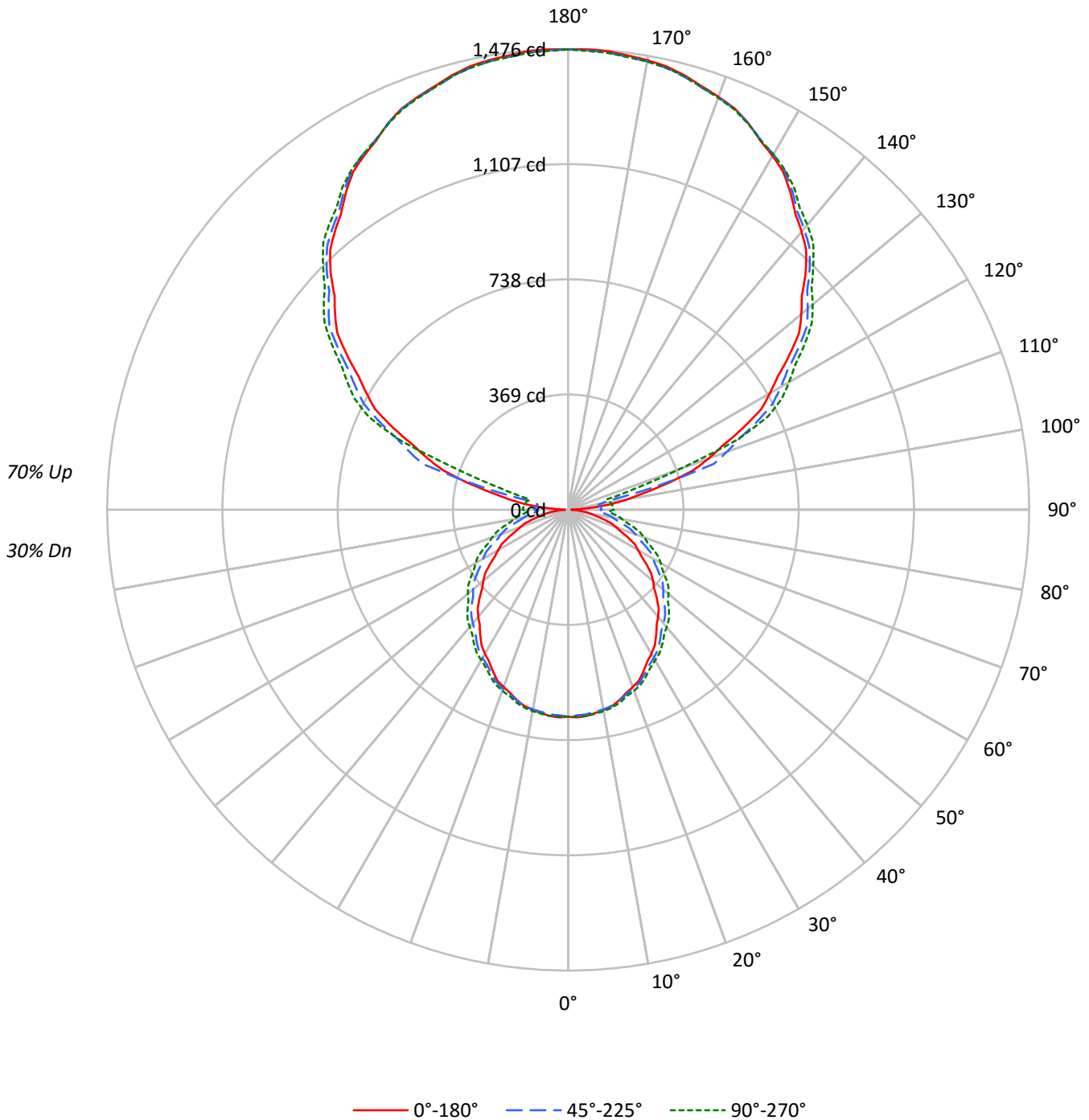
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	102	102	102	102	92	92	92	92	72	72	72	55	55	55	38	38	38	30
1	93	88	84	81	83	79	76	73	62	60	58	47	45	44	33	32	31	24
2	84	77	70	65	75	69	64	59	54	51	47	41	38	36	28	27	25	20
3	77	67	60	54	68	60	54	49	48	43	40	36	33	30	25	23	21	16
4	70	59	51	45	62	53	47	41	42	37	33	32	28	26	22	20	18	14
5	64	52	44	39	57	47	40	35	37	32	29	28	25	22	20	18	16	12
6	59	47	39	33	52	42	35	30	34	29	25	25	22	19	18	16	14	10
7	54	42	34	29	48	38	31	26	30	25	22	23	20	17	16	14	12	9
8	50	38	31	25	45	34	28	23	28	23	19	21	17	15	15	13	11	8
9	47	35	27	22	42	31	25	21	25	20	17	19	16	13	14	11	10	7
10	43	32	25	20	39	29	22	18	23	18	15	18	14	12	13	10	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7134	7134	7134
5°	7156	6954	6959
10°	7093	6795	6761
15°	7001	6612	6544
20°	6871	6405	6306
25°	6709	6166	6056
30°	6544	5951	5803
35°	6359	5723	5601
40°	6181	5515	5382
45°	5986	5318	5210
50°	5793	5121	5019
55°	5578	4919	4848
60°	5369	4716	4670
65°	5156	4499	4462
70°	4837	4254	4245
75°	4430	3973	4029
80°	3958	3698	3779
85°	3521	3508	3633



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.8	0.9
10°-20°	179.1	2.7
20°-30°	267.9	4.0
30°-40°	319.9	4.8
40°-50°	334.7	5.0
50°-60°	314.1	4.7
60°-70°	262.3	3.9
70°-80°	187.7	2.8
80°-90°	116.1	1.7
90°-100°	123.8	1.8
100°-110°	307.0	4.6
110°-120°	647.9	9.6
120°-130°	800.9	11.9
130°-140°	843.5	12.5
140°-150°	782.4	11.6
150°-160°	629.6	9.4
160°-170°	406.3	6.0
170°-180°	140.0	2.1
0°-30°	509.8	7.6
0°-40°	829.7	12.3
0°-60°	1478.6	22.0
0°-90°	2044.7	30.4
90°-120°	1078.8	16.0
90°-150°	3505.6	52.1
90°-180°	4682.0	69.6
0°-180°	6726.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	663	663	663	663	663	
5°	664	662	658	663	663	63
15°	632	634	633	640	640	178
25°	570	577	580	589	589	263
35°	491	502	512	522	526	307
45°	401	419	437	450	456	310
55°	306	330	356	375	381	274
65°	212	240	272	292	300	209
75°	115	149	185	208	217	123
85°	35	72	110	133	142	37
90°	10	57	108	136	146	10
95°	75	62	106	134	143	89
105°	332	356	294	130	129	352
115°	616	632	667	694	705	608
125°	865	875	899	916	924	773
135°	1076	1082	1094	1109	1110	828
145°	1240	1247	1249	1257	1260	776
155°	1366	1364	1364	1369	1363	629
165°	1440	1437	1436	1443	1437	407
175°	1474	1469	1470	1476	1468	140
180°	1474	1474	1474	1474	1474	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	665.7	665.3	665.0	664.5	664.1	663.5	662.4	661.4	660.3	659.3	660.3
5°	663.5	663.2	662.9	662.6	662.2	661.6	660.6	659.7	658.7	657.7	659.0
7.5°	657.0	657.0	657.1	657.2	657.3	656.9	655.9	655.0	654.0	653.1	654.7
10°	651.3	651.6	651.9	652.2	652.5	652.3	651.5	650.7	649.9	649.1	650.7
12.5°	644.3	644.8	645.3	645.6	646.1	646.1	645.5	645.0	644.4	643.9	645.4
15°	631.8	632.3	632.7	633.2	633.7	633.9	633.7	633.5	633.4	633.2	634.8
17.5°	615.9	616.8	617.8	618.8	619.7	620.2	620.1	620.0	620.0	619.9	621.3
20°	604.4	605.3	606.2	607.2	608.1	608.8	609.2	609.4	609.7	610.1	611.5
22.5°	592.2	593.1	594.1	595.1	596.1	596.7	597.2	597.7	598.1	598.5	600.4
25°	570.4	572.0	573.6	575.2	576.8	577.9	578.3	578.8	579.3	579.8	581.8
27.5°	548.5	550.3	552.1	553.9	555.7	557.1	558.2	559.2	560.2	561.3	563.1
30°	532.8	534.9	537.0	539.1	541.2	542.9	544.1	545.4	546.7	548.0	550.0
32.5°	515.5	517.8	520.2	522.5	524.9	526.9	528.6	530.2	531.9	533.6	535.6
35°	491.0	493.5	496.1	498.7	501.2	503.6	505.7	507.7	509.8	511.9	514.3
37.5°	465.0	467.9	470.7	473.6	476.5	479.3	481.8	484.4	486.9	489.6	492.3
40°	447.6	450.5	453.5	456.3	459.2	462.2	465.4	468.6	471.8	475.0	477.8
42.5°	428.6	432.2	435.6	439.1	442.7	446.1	449.5	452.8	456.2	459.5	462.5
45°	401.4	405.3	409.2	413.0	416.8	420.8	424.8	428.8	432.8	436.8	439.9
47.5°	373.0	377.4	381.7	386.1	390.4	394.9	399.5	404.1	408.7	413.3	416.7
50°	354.5	359.0	363.4	368.0	372.5	377.2	382.2	387.2	392.1	397.1	400.8
52.5°	334.9	339.6	344.4	349.1	353.8	359.0	364.5	369.9	375.4	381.0	384.7
55°	306.1	311.4	316.7	322.0	327.3	332.8	338.7	344.4	350.2	355.9	360.2
57.5°	278.1	283.6	289.2	294.6	300.2	306.1	312.5	318.8	325.1	331.4	335.7
60°	258.4	264.3	270.0	275.8	281.5	287.8	294.4	301.0	307.5	314.1	318.6
62.5°	240.0	245.9	251.8	257.7	263.6	270.0	277.0	284.0	291.0	297.9	302.4
65°	211.5	217.8	224.0	230.4	236.6	243.3	250.3	257.3	264.4	271.5	276.3
67.5°	182.7	189.4	196.0	202.6	209.2	216.1	223.4	230.5	237.7	244.9	250.2
70°	162.5	169.4	176.3	183.1	190.0	197.4	205.0	212.7	220.5	228.2	233.3
72.5°	143.9	150.9	157.8	164.7	171.5	179.0	186.9	194.9	202.8	210.8	216.1
75°	114.8	122.3	129.9	137.4	145.0	152.8	160.8	168.8	176.8	184.8	190.1
77.5°	89.4	97.0	104.6	112.2	119.8	127.6	135.7	143.8	151.9	160.0	165.6
80°	71.4	79.4	87.2	95.1	102.9	111.0	119.3	127.7	136.1	144.4	149.9
82.5°	55.9	63.9	71.8	79.8	87.8	96.0	104.5	113.0	121.5	130.0	135.4
85°	35.3	43.4	51.5	59.5	67.5	75.7	84.3	92.7	101.2	109.7	115.2
87.5°	19.4	27.9	36.4	44.9	53.3	62.0	70.8	79.6	88.4	97.3	102.9
90°	10.5	20.7	31.1	41.4	51.7	62.5	73.8	85.2	96.5	107.8	114.3
92.5°	29.2	35.6	42.0	48.4	54.9	63.2	73.7	84.1	94.5	105.0	111.9
95°	74.7	71.1	67.3	63.6	59.9	63.2	73.8	84.4	94.9	105.5	112.1
97.5°	141.3	142.5	143.6	144.9	146.0	141.6	131.6	121.6	111.6	101.5	108.3
100°	191.5	201.6	211.6	221.6	231.6	221.3	190.7	160.1	129.5	99.0	105.6
102.5°	248.8	256.9	265.0	273.1	281.3	268.2	234.0	199.8	165.6	131.4	129.9
105°	332.1	338.7	345.2	351.7	358.2	354.0	338.9	324.0	309.0	294.0	255.4
107.5°	419.2	424.7	430.1	435.5	440.9	448.7	458.6	468.6	478.6	488.6	461.4
110°	477.4	482.2	487.1	491.9	496.7	503.7	512.8	521.9	531.0	540.1	536.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	533.5	537.6	541.7	545.8	550.0	556.5	565.2	574.1	583.0	591.8	596.0
115°	615.8	619.2	622.5	625.9	629.2	635.0	642.9	650.9	658.8	666.8	673.1
117.5°	696.0	699.0	701.9	704.9	707.9	712.7	719.3	725.8	732.4	738.9	744.6
120°	745.4	748.3	751.3	754.3	757.3	761.9	767.8	773.8	779.9	785.9	791.5
122.5°	796.2	798.3	800.6	802.8	805.0	809.1	815.1	821.0	827.0	832.9	837.9
125°	865.1	867.0	868.9	870.9	872.9	876.7	882.3	887.9	893.5	899.2	903.1
127.5°	932.6	934.3	936.1	937.9	939.7	943.1	948.1	953.1	958.1	963.2	967.1
130°	974.6	976.4	978.2	980.0	981.8	984.7	988.9	993.1	997.2	1001.5	1005.4
132.5°	1014.3	1016.2	1018.1	1020.0	1022.0	1024.5	1027.9	1031.2	1034.6	1037.9	1041.9
135°	1075.7	1076.9	1078.3	1079.6	1080.9	1082.9	1085.6	1088.4	1091.1	1093.8	1097.5
137.5°	1128.1	1129.8	1131.5	1133.3	1135.0	1136.6	1138.1	1139.7	1141.2	1142.7	1146.4
140°	1162.5	1164.0	1165.5	1167.0	1168.4	1169.8	1170.9	1172.1	1173.4	1174.6	1178.0
142.5°	1195.0	1196.3	1197.7	1199.0	1200.3	1201.4	1202.2	1203.1	1203.9	1204.7	1207.6
145°	1240.3	1241.9	1243.4	1244.9	1246.5	1247.5	1248.0	1248.5	1249.0	1249.4	1251.2
147.5°	1282.3	1283.5	1284.6	1285.6	1286.8	1287.6	1288.1	1288.5	1289.0	1289.5	1290.4
150°	1308.6	1309.3	1310.0	1310.8	1311.5	1312.1	1312.6	1313.1	1313.6	1314.1	1314.6
152.5°	1332.3	1332.6	1332.9	1333.2	1333.6	1333.9	1334.2	1334.5	1334.8	1335.1	1336.0
155°	1365.6	1365.1	1364.5	1364.0	1363.6	1363.5	1363.7	1364.0	1364.2	1364.4	1365.6
157.5°	1391.4	1391.3	1391.3	1391.2	1391.2	1391.0	1390.8	1390.5	1390.3	1390.1	1391.6
160°	1407.1	1406.9	1406.7	1406.5	1406.2	1405.9	1405.7	1405.4	1405.2	1405.0	1406.5
162.5°	1422.0	1421.4	1420.8	1420.1	1419.5	1419.1	1418.8	1418.6	1418.3	1418.1	1419.8
165°	1440.0	1439.3	1438.5	1437.8	1437.1	1436.6	1436.3	1436.1	1435.9	1435.6	1437.6
167.5°	1454.1	1453.0	1452.1	1451.1	1450.1	1449.6	1449.6	1449.6	1449.6	1449.6	1451.6
170°	1461.9	1460.9	1460.0	1459.0	1458.0	1457.5	1457.5	1457.5	1457.5	1457.5	1459.4
172.5°	1467.2	1466.0	1464.8	1463.7	1462.4	1462.0	1462.2	1462.4	1462.5	1462.7	1464.7
175°	1473.9	1472.7	1471.5	1470.3	1469.0	1468.6	1468.9	1469.0	1469.3	1469.5	1471.3
177.5°	1475.7	1474.7	1473.8	1472.8	1471.8	1471.4	1471.6	1471.8	1472.0	1472.2	1473.8
180°	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	661.4	662.4	663.5	663.9	663.7	663.6	663.5	663.4
5°	660.3	661.6	662.9	663.5	663.3	663.1	663.0	662.8
7.5°	656.3	657.9	659.6	660.3	660.1	659.9	659.7	659.5
10°	652.3	653.9	655.5	656.1	655.8	655.5	655.2	654.9
12.5°	646.9	648.3	649.8	650.4	650.1	649.7	649.4	649.1
15°	636.4	638.0	639.6	640.4	640.2	640.0	639.9	639.7
17.5°	622.8	624.2	625.7	626.3	626.0	625.8	625.7	625.4
20°	613.0	614.4	615.9	616.7	616.8	617.0	617.2	617.3
22.5°	602.2	604.1	605.9	606.7	606.6	606.5	606.4	606.3
25°	583.9	586.1	588.1	589.2	589.2	589.2	589.2	589.2
27.5°	564.9	566.7	568.4	569.5	569.6	569.7	569.9	570.0
30°	551.9	553.7	555.7	556.7	556.7	556.7	556.7	556.7
32.5°	537.6	539.7	541.8	543.0	543.4	543.8	544.1	544.5
35°	516.7	519.2	521.5	523.0	523.7	524.3	525.0	525.7
37.5°	494.9	497.7	500.4	502.1	502.6	503.0	503.6	504.1
40°	480.5	483.2	486.0	487.7	488.3	489.0	489.6	490.2
42.5°	465.4	468.4	471.5	473.3	474.3	475.1	476.1	476.9
45°	442.9	445.9	449.0	451.2	452.4	453.7	455.1	456.3
47.5°	420.2	423.6	427.0	429.2	430.2	431.2	432.3	433.2
50°	404.4	408.2	411.9	414.2	415.4	416.5	417.6	418.8
52.5°	388.6	392.4	396.2	398.8	400.2	401.5	402.9	404.4
55°	364.6	368.9	373.2	376.1	377.4	378.6	379.9	381.3
57.5°	340.2	344.5	348.8	351.8	353.3	354.8	356.3	357.8
60°	323.1	327.5	332.1	335.2	337.0	338.7	340.4	342.2
62.5°	306.9	311.4	315.8	319.0	320.6	322.2	323.9	325.5
65°	281.1	285.9	290.8	294.0	295.6	297.2	298.8	300.4
67.5°	255.4	260.7	266.0	269.3	270.6	271.9	273.3	274.7
70°	238.5	243.6	248.7	252.0	253.6	255.2	256.8	258.4
72.5°	221.3	226.6	231.9	235.4	237.0	238.6	240.2	241.8
75°	195.4	200.8	206.0	209.6	211.5	213.5	215.4	217.4
77.5°	171.2	176.7	182.3	185.9	187.4	188.8	190.3	191.8
80°	155.3	160.8	166.3	169.8	171.4	173.0	174.6	176.2
82.5°	140.9	146.3	151.7	155.3	156.9	158.5	160.1	161.7
85°	120.6	126.1	131.6	135.1	136.7	138.3	139.9	141.5
87.5°	108.6	114.2	119.8	123.5	125.3	127.0	128.7	130.4
90°	120.7	127.1	133.6	137.8	140.0	142.0	144.1	146.2
92.5°	118.8	125.6	132.5	136.9	138.6	140.4	142.1	143.9
95°	118.8	125.5	132.1	136.3	137.9	139.5	141.1	142.7
97.5°	115.0	121.7	128.5	132.7	134.6	136.5	138.3	140.2
100°	112.2	118.8	125.4	129.6	131.4	133.3	135.2	137.0
102.5°	128.4	126.9	125.4	125.6	127.7	129.7	131.8	133.8
105°	216.8	178.2	139.7	121.3	123.3	125.2	127.1	129.0
107.5°	434.0	406.8	379.5	350.3	319.3	288.2	257.2	226.1
110°	532.3	528.5	524.6	506.0	472.4	438.9	405.4	371.9



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CATALOG NUMBER: S123DIP-S560D1195U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	600.2	604.4	608.6	607.7	601.7	595.8	589.8	583.9
115°	679.4	685.7	691.9	696.3	698.5	700.8	703.0	705.3
117.5°	750.4	756.2	762.0	765.5	766.9	768.5	769.9	771.3
120°	797.2	802.9	808.4	811.8	812.9	814.1	815.2	816.3
122.5°	842.8	847.7	852.6	855.7	857.1	858.4	859.7	861.0
125°	906.8	910.7	914.5	917.3	918.9	920.5	922.1	923.8
127.5°	971.1	975.1	978.9	981.3	981.8	982.4	983.1	983.6
130°	1009.5	1013.5	1017.5	1019.7	1020.2	1020.7	1021.2	1021.7
132.5°	1045.8	1049.6	1053.6	1055.6	1056.1	1056.5	1057.0	1057.3
135°	1101.1	1104.8	1108.3	1110.2	1110.2	1110.3	1110.4	1110.5
137.5°	1150.2	1153.9	1157.5	1159.6	1159.9	1160.2	1160.6	1160.8
140°	1181.4	1184.8	1188.1	1190.0	1190.2	1190.6	1190.9	1191.2
142.5°	1210.6	1213.5	1216.4	1218.0	1218.0	1218.1	1218.3	1218.4
145°	1253.0	1254.8	1256.5	1257.7	1258.4	1259.0	1259.7	1260.3
147.5°	1291.3	1292.1	1293.0	1293.2	1292.6	1292.1	1291.6	1291.0
150°	1315.0	1315.5	1316.0	1316.1	1315.6	1315.2	1314.8	1314.4
152.5°	1336.8	1337.8	1338.6	1338.5	1337.5	1336.4	1335.3	1334.3
155°	1366.9	1368.1	1369.3	1369.1	1367.7	1366.3	1364.8	1363.4
157.5°	1393.0	1394.4	1395.9	1395.7	1393.8	1391.9	1390.0	1388.1
160°	1407.9	1409.3	1410.8	1410.7	1409.0	1407.3	1405.5	1403.8
162.5°	1421.4	1423.1	1424.7	1424.7	1423.2	1421.7	1420.2	1418.7
165°	1439.5	1441.4	1443.4	1443.5	1441.8	1440.1	1438.4	1436.7
167.5°	1453.5	1455.5	1457.5	1457.5	1455.5	1453.5	1451.6	1449.6
170°	1461.4	1463.4	1465.3	1465.3	1463.4	1461.4	1459.4	1457.5
172.5°	1466.7	1468.6	1470.6	1470.5	1468.3	1466.2	1464.1	1461.9
175°	1473.0	1474.7	1476.4	1476.2	1474.3	1472.3	1470.5	1468.5
177.5°	1475.3	1476.9	1478.4	1478.2	1476.3	1474.3	1472.3	1470.5
180°	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9

(END OF REPORT)