

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: P331952-830

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331952-830
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-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: 6683.9 lumens
Efficiency: N/A
Efficacy: 135.3 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

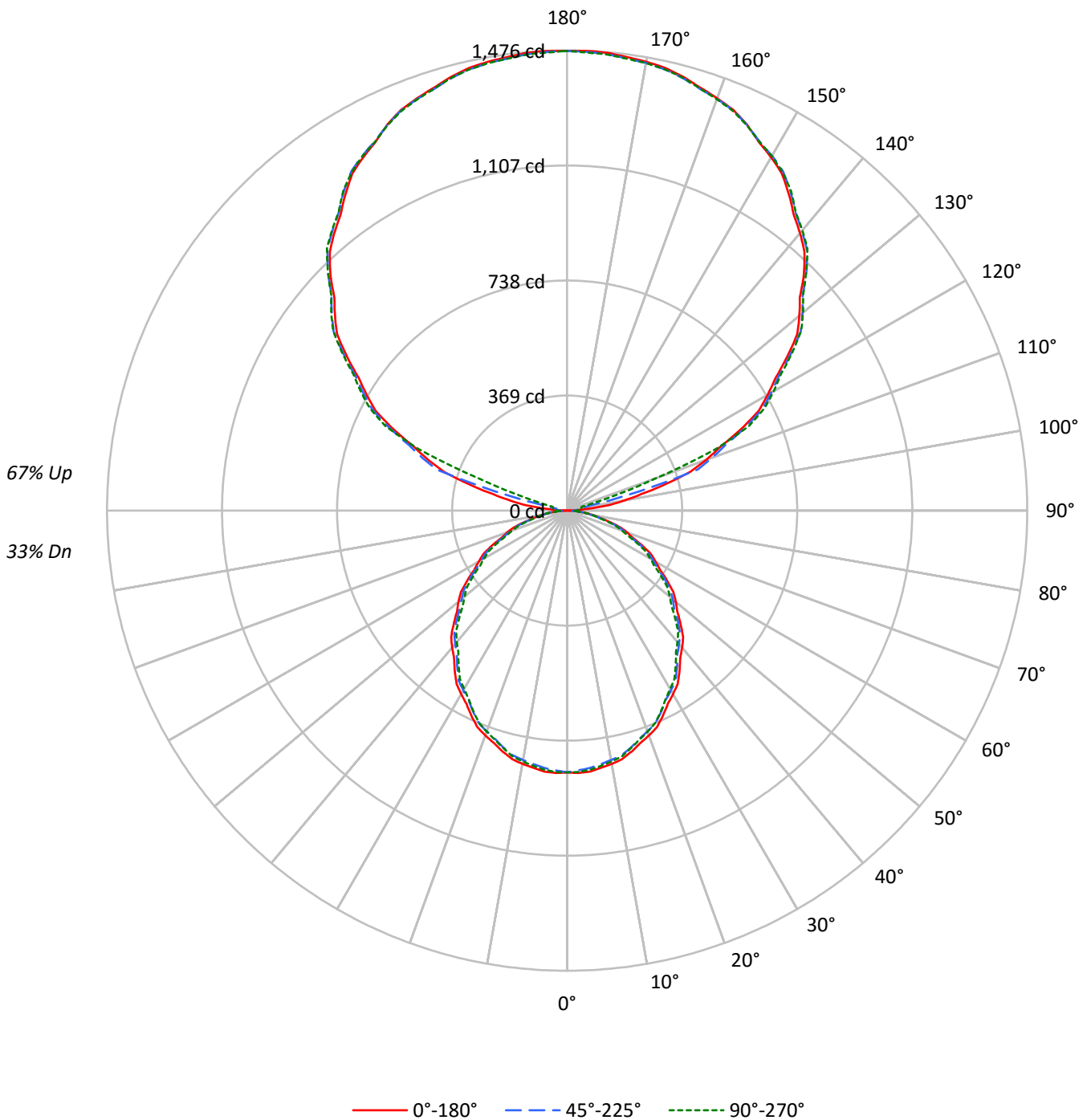
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	9038	9038	9038
5°	9081	8956	9018
10°	9021	8878	8933
15°	8914	8778	8795
20°	8791	8635	8643
25°	8626	8464	8445
30°	8444	8274	8211
35°	8253	8073	7970
40°	8056	7852	7731
45°	7837	7649	7462
50°	7618	7400	7194
55°	7330	7141	6923
60°	7042	6837	6622
65°	6788	6510	6306
70°	6408	6134	5860
75°	5856	5644	5407
80°	5281	5058	5015
85°	4631	4458	4286



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.1	1.2
10°-20°	223.3	3.3
20°-30°	329.9	4.9
30°-40°	385.4	5.8
40°-50°	387.4	5.8
50°-60°	340.3	5.1
60°-70°	253.5	3.8
70°-80°	144.5	2.2
80°-90°	45.6	0.7
90°-100°	53.6	0.8
100°-110°	255.4	3.8
110°-120°	613.5	9.2
120°-130°	781.2	11.7
130°-140°	834.7	12.5
140°-150°	780.5	11.7
150°-160°	629.6	9.4
160°-170°	406.3	6.1
170°-180°	140.0	2.1
0°-30°	632.3	9.5
0°-40°	1017.7	15.2
0°-60°	1745.5	26.1
0°-90°	2189.1	32.8
90°-120°	922.4	13.8
90°-150°	3318.8	49.7
90°-180°	4495.0	67.3
0°-180°	6683.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	840	840	840	840	840	
5°	840	837	829	836	835	80
15°	800	797	788	793	789	225
25°	726	722	713	713	711	334
35°	628	624	614	610	606	393
45°	515	512	502	494	490	397
55°	391	389	380	373	369	350
65°	266	263	256	250	248	263
75°	141	138	136	132	130	151
85°	38	36	36	35	35	41
90°	1	12	26	31	33	5
95°	67	25	34	41	42	83
105°	326	332	240	57	48	346
115°	612	619	629	639	644	604
125°	863	871	876	878	880	770
135°	1074	1081	1085	1088	1085	827
145°	1240	1247	1249	1252	1252	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°	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7
2.5°	842.5	842.1	841.6	841.0	840.6	839.5	838.1	836.7	835.4	834.0	835.2
5°	840.4	839.6	838.8	838.0	837.2	835.9	834.2	832.4	830.7	828.9	830.5
7.5°	832.2	831.4	830.6	829.8	829.0	827.6	825.9	824.0	822.2	820.4	821.8
10°	825.3	824.4	823.7	822.8	822.1	820.6	818.5	816.4	814.4	812.3	813.7
12.5°	816.1	815.3	814.6	814.0	813.3	812.0	810.0	808.0	806.2	804.2	805.2
15°	799.9	799.4	798.7	798.1	797.4	796.1	794.0	791.9	789.8	787.7	789.0
17.5°	781.4	780.5	779.7	778.8	778.0	776.6	774.5	772.4	770.3	768.2	769.1
20°	767.5	766.6	765.5	764.6	763.6	762.1	760.1	758.0	755.8	753.8	754.4
22.5°	751.9	750.9	750.0	749.0	748.0	746.5	744.4	742.3	740.3	738.2	738.7
25°	726.3	725.4	724.4	723.5	722.5	721.0	718.9	716.8	714.7	712.7	712.8
27.5°	699.1	698.1	697.2	696.3	695.3	693.7	691.4	689.3	687.0	684.8	684.9
30°	679.4	678.6	677.8	677.0	676.2	674.7	672.4	670.1	668.0	665.7	665.7
32.5°	659.8	658.7	657.6	656.6	655.5	654.1	652.4	650.6	648.9	647.2	646.3
35°	628.1	627.2	626.2	625.3	624.3	622.7	620.7	618.6	616.5	614.4	613.5
37.5°	595.8	594.6	593.3	592.1	590.9	589.3	587.1	585.0	582.9	580.8	579.7
40°	573.3	572.3	571.4	570.4	569.4	567.8	565.5	563.4	561.1	558.8	557.5
42.5°	550.7	549.7	548.6	547.4	546.4	544.7	542.4	540.3	538.0	535.7	534.4
45°	514.8	514.2	513.5	512.8	512.2	510.9	508.8	506.7	504.6	502.5	500.6
47.5°	479.1	478.2	477.3	476.4	475.4	473.9	472.0	470.0	468.1	466.1	464.2
50°	454.9	454.0	453.3	452.4	451.7	450.3	448.1	446.0	443.9	441.9	440.1
52.5°	429.4	428.9	428.4	427.8	427.3	425.8	423.7	421.5	419.2	417.1	415.6
55°	390.6	390.4	390.3	390.1	389.9	388.8	386.7	384.7	382.6	380.5	378.7
57.5°	353.6	353.1	352.5	352.0	351.5	350.3	348.6	347.0	345.3	343.7	342.1
60°	327.1	326.9	326.8	326.6	326.4	325.4	323.5	321.5	319.6	317.6	316.2
62.5°	303.4	302.9	302.6	302.2	301.7	300.6	298.6	296.7	294.7	292.8	291.4
65°	266.5	265.6	264.9	264.0	263.3	262.0	260.4	258.8	257.2	255.6	254.3
67.5°	227.2	226.6	225.8	225.2	224.4	223.5	222.3	221.0	219.8	218.7	217.5
70°	203.6	202.6	201.7	200.8	199.7	198.8	197.8	196.9	195.9	194.9	193.8
72.5°	178.8	178.0	177.4	176.6	176.0	175.0	174.0	172.9	171.7	170.7	169.7
75°	140.8	140.2	139.5	138.8	138.3	137.7	137.1	136.7	136.2	135.7	135.0
77.5°	107.2	106.8	106.4	106.1	105.8	105.3	104.7	104.2	103.5	102.9	102.5
80°	85.2	84.7	84.3	83.8	83.2	82.8	82.6	82.2	81.9	81.6	81.4
82.5°	63.8	63.7	63.6	63.5	63.4	63.3	63.3	63.2	63.2	63.2	62.8
85°	37.5	37.2	36.9	36.6	36.3	36.1	36.1	36.1	36.1	36.1	35.8
87.5°	15.3	15.4	15.5	15.6	15.6	15.9	16.5	17.0	17.4	18.0	18.0
90°	1.1	3.5	5.9	8.4	10.8	13.7	16.8	20.0	23.1	26.3	27.2
92.5°	20.4	19.7	19.0	18.3	17.6	18.5	20.9	23.3	25.6	28.0	29.6
95°	66.8	56.8	46.8	36.9	26.9	23.3	25.9	28.6	31.3	33.9	35.6
97.5°	134.2	129.8	125.3	120.8	116.3	105.4	87.8	70.3	52.8	35.3	37.2
100°	185.0	189.9	194.8	199.6	204.5	187.9	150.1	112.1	74.1	36.1	38.1
102.5°	242.9	246.4	249.9	253.4	256.9	237.9	196.4	155.0	113.5	72.0	66.0
105°	326.3	329.0	331.7	334.3	337.1	327.4	305.5	283.6	261.7	239.8	196.7
107.5°	414.3	416.5	418.7	420.8	422.9	425.7	429.2	432.6	436.1	439.6	407.9
110°	473.1	475.0	476.9	478.9	480.9	483.1	485.9	488.5	491.2	493.9	485.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	529.1	530.8	532.6	534.4	536.1	538.4	541.0	543.8	546.4	549.0	549.2
115°	612.2	613.6	615.0	616.5	617.9	619.8	622.0	624.2	626.4	628.6	631.0
117.5°	692.5	694.3	696.1	698.0	699.7	701.2	702.3	703.4	704.6	705.7	707.6
120°	742.4	744.6	746.9	749.0	751.2	752.7	753.4	754.1	754.9	755.5	757.5
122.5°	793.2	795.0	796.8	798.6	800.5	801.8	802.8	803.7	804.6	805.5	806.9
125°	862.9	864.9	866.8	868.7	870.7	872.1	873.1	874.1	875.1	876.0	876.6
127.5°	930.4	932.3	934.2	936.2	938.1	939.7	940.8	942.1	943.2	944.3	945.2
130°	972.4	974.4	976.3	978.3	980.1	981.7	982.6	983.6	984.6	985.5	986.6
132.5°	1012.7	1014.6	1016.6	1018.5	1020.5	1021.8	1022.7	1023.4	1024.2	1025.0	1026.0
135°	1074.2	1075.7	1077.1	1078.6	1080.1	1081.3	1082.3	1083.3	1084.2	1085.2	1085.9
137.5°	1126.8	1128.7	1130.5	1132.4	1134.3	1135.4	1136.0	1136.5	1137.0	1137.6	1138.7
140°	1161.9	1163.3	1164.8	1166.2	1167.7	1168.8	1169.5	1170.3	1171.0	1171.7	1172.7
142.5°	1194.3	1195.7	1197.2	1198.6	1200.1	1201.2	1201.9	1202.7	1203.4	1204.1	1204.9
145°	1239.6	1241.3	1243.0	1244.7	1246.4	1247.5	1248.0	1248.5	1249.0	1249.4	1249.9
147.5°	1282.3	1283.5	1284.6	1285.6	1286.8	1287.6	1288.1	1288.5	1289.0	1289.5	1290.1
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°	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7
2.5°	836.5	837.7	839.1	839.6	839.5	839.3	839.2	839.1
5°	832.1	833.7	835.3	835.9	835.6	835.3	835.0	834.6
7.5°	823.2	824.6	826.1	826.7	826.5	826.3	826.1	826.0
10°	815.1	816.6	818.0	818.6	818.3	817.9	817.7	817.3
12.5°	806.3	807.4	808.4	808.8	808.6	808.4	808.2	808.0
15°	790.3	791.5	792.9	793.0	792.0	791.1	790.1	789.2
17.5°	770.1	770.9	771.8	772.0	771.8	771.4	771.0	770.6
20°	755.1	755.7	756.3	756.4	755.9	755.4	755.0	754.5
22.5°	739.2	739.7	740.3	740.2	739.6	739.0	738.4	737.7
25°	712.9	713.1	713.2	713.1	712.7	712.2	711.6	711.1
27.5°	685.0	685.1	685.2	685.0	684.4	683.8	683.2	682.6
30°	665.7	665.7	665.7	665.2	664.0	662.9	661.8	660.6
32.5°	645.5	644.5	643.6	642.8	642.2	641.7	641.0	640.5
35°	612.5	611.5	610.6	609.7	608.9	608.1	607.3	606.5
37.5°	578.4	577.3	576.2	575.3	574.9	574.3	573.8	573.3
40°	556.3	555.0	553.7	552.7	552.0	551.5	550.8	550.2
42.5°	533.2	531.9	530.6	529.6	529.0	528.4	527.7	527.1
45°	498.7	496.7	494.8	493.4	492.7	491.8	491.1	490.2
47.5°	462.3	460.4	458.5	457.2	456.6	455.8	455.2	454.4
50°	438.4	436.6	434.8	433.5	432.4	431.5	430.6	429.6
52.5°	414.1	412.6	411.0	409.7	408.8	407.8	406.9	406.0
55°	376.9	375.2	373.4	372.1	371.4	370.5	369.8	368.9
57.5°	340.5	338.9	337.4	336.1	335.2	334.3	333.4	332.4
60°	314.8	313.4	311.9	310.8	310.0	309.2	308.4	307.6
62.5°	289.9	288.5	287.1	286.1	285.5	285.0	284.5	283.9
65°	253.0	251.8	250.4	249.6	249.1	248.6	248.2	247.6
67.5°	216.4	215.3	214.1	213.2	212.5	211.9	211.2	210.6
70°	192.7	191.6	190.5	189.5	188.7	187.8	187.1	186.2
72.5°	168.7	167.7	166.7	166.0	165.6	165.1	164.8	164.3
75°	134.1	133.4	132.5	131.9	131.4	130.9	130.4	130.0
77.5°	101.9	101.3	100.8	100.5	100.5	100.5	100.5	100.5
80°	81.2	81.1	81.0	80.9	80.9	80.9	80.9	80.9
82.5°	62.5	62.2	61.9	61.7	61.6	61.5	61.4	61.3
85°	35.4	35.2	34.8	34.7	34.7	34.7	34.7	34.7
87.5°	18.1	18.2	18.2	18.3	18.4	18.5	18.6	18.7
90°	28.2	29.2	30.2	30.9	31.4	31.9	32.3	32.9
92.5°	31.1	32.7	34.3	35.2	35.4	35.8	36.1	36.4
95°	37.3	39.0	40.7	41.6	41.6	41.6	41.6	41.6
97.5°	39.1	41.1	43.1	44.1	44.4	44.7	44.9	45.1
100°	40.1	41.9	43.9	45.1	45.2	45.5	45.7	46.0
102.5°	59.9	53.9	47.9	45.1	45.5	46.0	46.5	46.8
105°	153.6	110.6	67.5	46.3	46.8	47.2	47.7	48.2
107.5°	376.4	344.8	313.2	281.2	248.7	216.2	183.8	151.4
110°	477.8	469.8	461.8	440.4	405.6	370.7	335.9	301.1



TEST NUMBER: P331952-830

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	549.3	549.5	549.7	546.0	538.7	531.3	524.0	516.6
115°	633.4	635.8	638.3	640.0	640.9	642.0	642.9	643.9
117.5°	709.5	711.5	713.4	714.5	714.7	714.9	715.1	715.3
120°	759.5	761.4	763.4	764.3	764.3	764.3	764.3	764.3
122.5°	808.2	809.6	811.0	811.7	811.9	812.1	812.4	812.6
125°	877.0	877.5	878.0	878.4	878.9	879.5	880.0	880.4
127.5°	945.9	946.7	947.4	947.6	947.2	946.7	946.2	945.7
130°	987.5	988.4	989.5	989.7	989.2	988.7	988.3	987.8
132.5°	1026.9	1027.9	1028.9	1029.0	1028.3	1027.7	1027.0	1026.2
135°	1086.7	1087.4	1088.2	1088.2	1087.4	1086.7	1085.9	1085.2
137.5°	1139.9	1141.0	1142.2	1142.6	1142.1	1141.6	1141.1	1140.6
140°	1173.7	1174.6	1175.6	1175.8	1175.4	1174.9	1174.4	1173.9
142.5°	1205.7	1206.5	1207.2	1207.3	1206.6	1205.9	1205.2	1204.6
145°	1250.5	1250.9	1251.4	1251.6	1251.6	1251.6	1251.6	1251.6
147.5°	1290.5	1291.0	1291.5	1291.2	1290.1	1288.9	1287.8	1286.7
150°	1315.0	1315.5	1316.0	1315.9	1315.1	1314.5	1313.7	1313.0
152.5°	1336.8	1337.8	1338.6	1338.5	1337.4	1336.2	1335.1	1334.0
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)