

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: P331954-830

Luminaire Tested: **S123DIP-S560D1195U830-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331954-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
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-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6259.2 lumens
Efficiency: N/A
Efficacy: 126.7 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

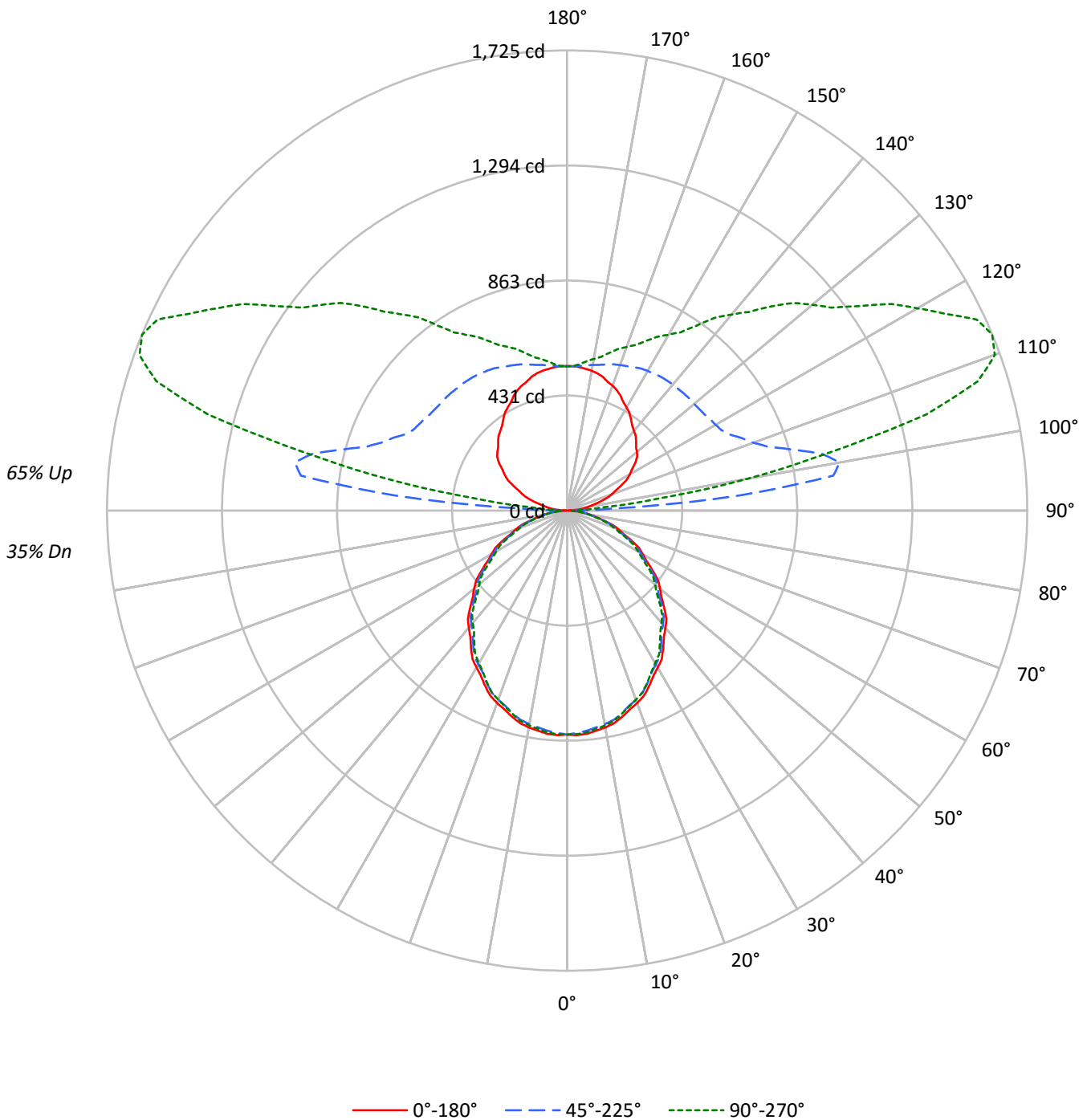
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331954-830

CATALOG NUMBER: S123DIP-S560D1195U830-4F0-1E-UDD-F4

Luminous Intensity Polar Plot





TEST NUMBER: P331954-830

CATALOG NUMBER: S123DIP-S560D1195U830-4F0-1E-UDD-F4

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	75	75	75	58	58	58	42	42	42	35
1	94	90	86	83	85	82	78	75	66	63	61	51	49	48	37	36	36	29
2	86	79	73	68	77	71	66	62	57	54	51	45	42	40	33	31	30	25
3	78	69	62	56	70	63	56	52	51	46	43	39	36	34	29	27	25	21
4	72	61	53	47	64	55	49	44	45	40	36	35	32	29	26	24	22	18
5	66	54	46	40	59	49	42	37	40	35	31	31	28	25	23	21	19	15
6	60	49	41	35	54	44	37	32	36	31	27	28	25	22	21	19	17	14
7	56	44	36	31	50	40	33	28	33	27	24	26	22	19	19	17	15	12
8	52	40	32	27	47	36	29	25	30	25	21	23	20	17	18	15	13	11
9	48	36	29	24	43	33	26	22	27	22	19	22	18	15	16	14	12	10
10	45	33	26	21	40	30	24	20	25	20	17	20	16	14	15	13	11	9

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



TEST NUMBER: P331954-830

CATALOG NUMBER: S123DIP-S560D1195U830-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.1	1.3
10°-20°	223.3	3.6
20°-30°	329.9	5.3
30°-40°	385.4	6.2
40°-50°	387.4	6.2
50°-60°	340.3	5.4
60°-70°	253.5	4.1
70°-80°	144.5	2.3
80°-90°	45.6	0.7
90°-100°	301.1	4.8
100°-110°	852.5	13.6
110°-120°	838.6	13.4
120°-130°	668.9	10.7
130°-140°	527.4	8.4
140°-150°	393.6	6.3
150°-160°	274.4	4.4
160°-170°	161.2	2.6
170°-180°	52.4	0.8
0°-30°	632.3	10.1
0°-40°	1017.7	16.3
0°-60°	1745.5	27.9
0°-90°	2189.1	35.0
90°-120°	1992.1	31.8
90°-150°	3582.0	57.2
90°-180°	4070.0	65.0
0°-180°	6259.2	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°	2	13	27	31	32	5
95°	37	121	649	190	127	40
105°	127	188	880	1540	1393	135
115°	224	280	673	1477	1694	222
125°	312	368	629	1139	1336	277
135°	366	436	620	938	1083	283
145°	417	478	612	769	846	261
155°	474	511	592	673	702	218
165°	518	533	567	602	612	146
175°	540	540	544	552	551	51
180°	541	541	541	541	541	



TEST NUMBER: P331954-830

CATALOG NUMBER: S123DIP-S560D1195U830-4F0-1E-UDD-F4

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°	15.5	15.6	15.6	15.8	15.9	16.0	16.6	17.2	17.6	18.2	17.8
90°	2.2	4.3	6.6	9.9	12.1	14.2	17.5	20.8	24.1	27.3	26.3
92.5°	13.6	20.2	29.3	37.9	47.1	63.3	92.0	139.1	185.3	168.4	127.1
95°	37.2	40.5	52.6	71.2	99.6	142.3	235.4	398.6	578.2	649.4	526.7
97.5°	63.5	64.6	74.0	90.2	118.3	164.5	253.4	437.3	736.8	1006.4	1076.7
100°	81.1	82.1	89.8	105.1	131.4	174.1	250.8	412.8	700.9	1037.1	1252.8
102.5°	99.4	101.4	108.2	122.6	146.3	185.5	254.3	391.8	648.3	980.1	1261.5
105°	127.1	130.4	136.9	150.1	170.8	204.8	263.9	376.7	583.7	880.4	1194.8
107.5°	156.4	159.7	166.0	178.9	198.4	230.0	281.9	375.6	542.5	792.4	1077.8
110°	177.4	180.7	186.2	198.2	216.8	247.5	296.8	380.0	526.7	742.4	1004.2



TEST NUMBER: P331954-830

CATALOG NUMBER: S123DIP-S560D1195U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	196.7	200.0	205.5	217.4	236.1	265.9	311.7	388.8	518.0	709.2	940.3
115°	224.5	228.8	235.4	246.4	265.0	294.5	336.2	403.0	514.7	673.4	862.9
117.5°	252.3	257.3	262.8	272.9	293.7	321.1	362.2	421.8	516.7	652.4	816.2
120°	271.5	274.8	280.3	291.3	312.1	339.5	378.9	435.8	520.2	642.8	791.7
122.5°	288.2	291.5	297.0	308.8	328.8	357.9	396.4	449.0	526.3	636.7	771.6
125°	312.1	314.3	320.8	332.9	353.7	383.2	421.6	469.8	535.5	628.6	745.7
127.5°	330.3	333.6	341.7	353.9	376.9	406.5	443.5	486.9	546.0	624.6	723.0
130°	341.7	345.0	354.8	368.0	391.0	420.5	456.7	498.2	553.0	622.0	710.7
132.5°	350.4	354.6	365.3	381.1	404.1	432.8	468.1	508.8	558.3	621.1	699.4
135°	365.8	370.1	382.2	398.6	421.6	451.2	485.1	522.4	566.2	619.8	684.5
137.5°	380.2	384.8	396.6	414.2	437.0	464.3	496.9	532.4	571.5	617.4	671.5
140°	389.8	395.3	406.2	423.8	445.7	473.1	504.8	537.7	575.0	616.5	663.6
142.5°	400.4	405.0	416.8	432.5	454.5	480.1	511.0	542.9	577.6	614.8	656.6
145°	417.3	420.5	430.4	446.8	465.4	490.6	519.1	548.7	579.3	612.2	647.2
147.5°	434.3	436.3	445.9	460.1	478.2	499.5	525.7	552.1	579.3	608.0	638.0
150°	445.7	446.8	455.5	469.8	485.1	504.8	530.0	553.0	579.3	604.5	631.9
152.5°	457.1	457.3	466.1	478.5	492.1	511.0	532.6	554.8	576.6	600.1	624.9
155°	474.2	474.2	480.8	491.7	503.7	519.1	537.7	555.3	573.8	592.5	614.3
157.5°	487.8	488.6	493.9	503.5	513.8	525.7	540.5	556.3	570.1	585.7	602.5
160°	498.2	498.2	502.7	511.4	519.1	530.0	543.2	556.3	568.4	580.4	594.7
162.5°	506.1	506.1	509.6	516.7	523.5	532.6	544.0	555.4	564.9	575.1	586.7
165°	518.0	516.9	519.1	524.5	529.0	536.6	545.4	553.0	559.6	567.2	576.0
167.5°	527.0	525.7	526.7	530.9	534.0	538.8	545.2	551.3	554.3	559.4	565.7
170°	532.3	530.0	531.1	534.4	536.6	538.8	544.2	548.7	550.8	554.1	559.6
172.5°	535.7	534.4	534.6	537.1	538.4	539.7	544.2	547.8	548.2	549.7	553.5
175°	539.9	538.8	537.7	539.9	539.9	541.0	543.2	545.4	544.2	544.2	546.5
177.5°	541.9	541.0	540.1	541.0	541.0	541.0	541.9	543.6	541.9	541.0	541.9
180°	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0



TEST NUMBER: P331954-830

CATALOG NUMBER: S123DIP-S560D1195U830-4F0-1E-UDD-F4

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°	17.9	18.0	18.1	18.5	18.3	18.5	18.7	18.5
90°	27.3	28.5	29.6	31.8	30.6	31.8	32.9	31.8
92.5°	92.2	73.1	64.6	58.9	56.9	53.6	54.8	52.8
95°	394.3	267.2	209.2	169.8	148.9	139.1	131.4	127.1
97.5°	982.7	787.1	645.9	514.9	434.1	384.8	355.2	345.8
100°	1291.1	1202.4	1074.3	918.8	808.1	728.2	685.5	686.6
102.5°	1393.6	1390.7	1316.1	1217.5	1131.4	1068.2	1032.5	1007.3
105°	1423.6	1533.1	1554.0	1525.5	1475.1	1433.5	1398.5	1393.0
107.5°	1337.3	1515.1	1611.1	1650.1	1651.0	1636.9	1625.1	1615.0
110°	1255.0	1456.5	1594.5	1671.1	1701.8	1710.5	1708.4	1706.2



TEST NUMBER: P331954-830

CATALOG NUMBER: S123DIP-S560D1195U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1173.5	1379.4	1534.0	1632.6	1688.7	1715.8	1724.1	1724.6
115°	1065.5	1256.0	1417.0	1536.4	1618.5	1666.7	1688.7	1694.1
117.5°	987.3	1151.8	1296.4	1417.5	1503.2	1558.3	1589.9	1597.3
120°	946.1	1094.0	1225.4	1336.1	1422.5	1483.8	1510.1	1516.7
122.5°	913.7	1047.5	1169.3	1272.1	1349.0	1404.1	1433.0	1441.3
125°	870.6	990.0	1095.0	1182.7	1252.8	1301.0	1328.3	1336.1
127.5°	832.9	939.3	1034.2	1113.9	1176.4	1217.5	1242.3	1249.2
130°	809.3	907.9	996.6	1071.0	1129.1	1168.5	1191.5	1200.2
132.5°	787.4	878.1	960.6	1031.6	1086.1	1125.5	1145.9	1152.1
135°	757.8	835.6	906.7	969.1	1022.8	1055.6	1075.3	1083.1
137.5°	730.8	794.6	855.9	910.0	955.2	988.4	1005.0	1010.1
140°	715.1	770.9	823.5	870.6	912.2	942.9	960.4	959.3
142.5°	700.2	748.2	793.7	834.7	870.2	897.3	913.0	912.0
145°	682.2	718.4	753.5	785.1	812.6	835.6	844.3	846.5
147.5°	667.6	696.3	724.5	747.1	767.9	783.4	791.7	792.6
150°	657.0	682.2	705.2	726.0	742.4	754.5	761.1	761.1
152.5°	647.4	669.1	689.5	706.8	719.7	730.8	734.8	734.8
155°	632.9	650.4	666.9	680.0	689.9	698.7	700.9	701.9
157.5°	617.6	632.4	645.0	655.3	663.8	670.4	672.1	671.9
160°	608.9	620.9	631.9	639.5	647.2	653.7	653.7	652.7
162.5°	598.3	608.7	618.7	625.5	630.6	636.2	636.2	635.2
165°	584.8	591.4	599.0	604.5	608.9	613.2	612.2	612.2
167.5°	573.0	578.0	582.4	586.4	588.2	591.4	590.2	590.2
170°	565.1	568.4	572.7	575.0	576.0	578.2	577.1	577.1
172.5°	558.1	560.4	564.0	565.2	565.5	567.7	565.7	564.9
175°	548.7	549.7	552.0	552.0	552.0	553.0	552.0	550.8
177.5°	542.7	543.6	544.5	544.5	543.6	544.5	542.7	542.7
180°	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0

(END OF REPORT)