

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: P331951-927

Luminaire Tested: **S123DIP-S560D1195U927-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331951-927
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-S560D1195U927-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5296.3 lumens
Efficiency: N/A
Efficacy: 107.2 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

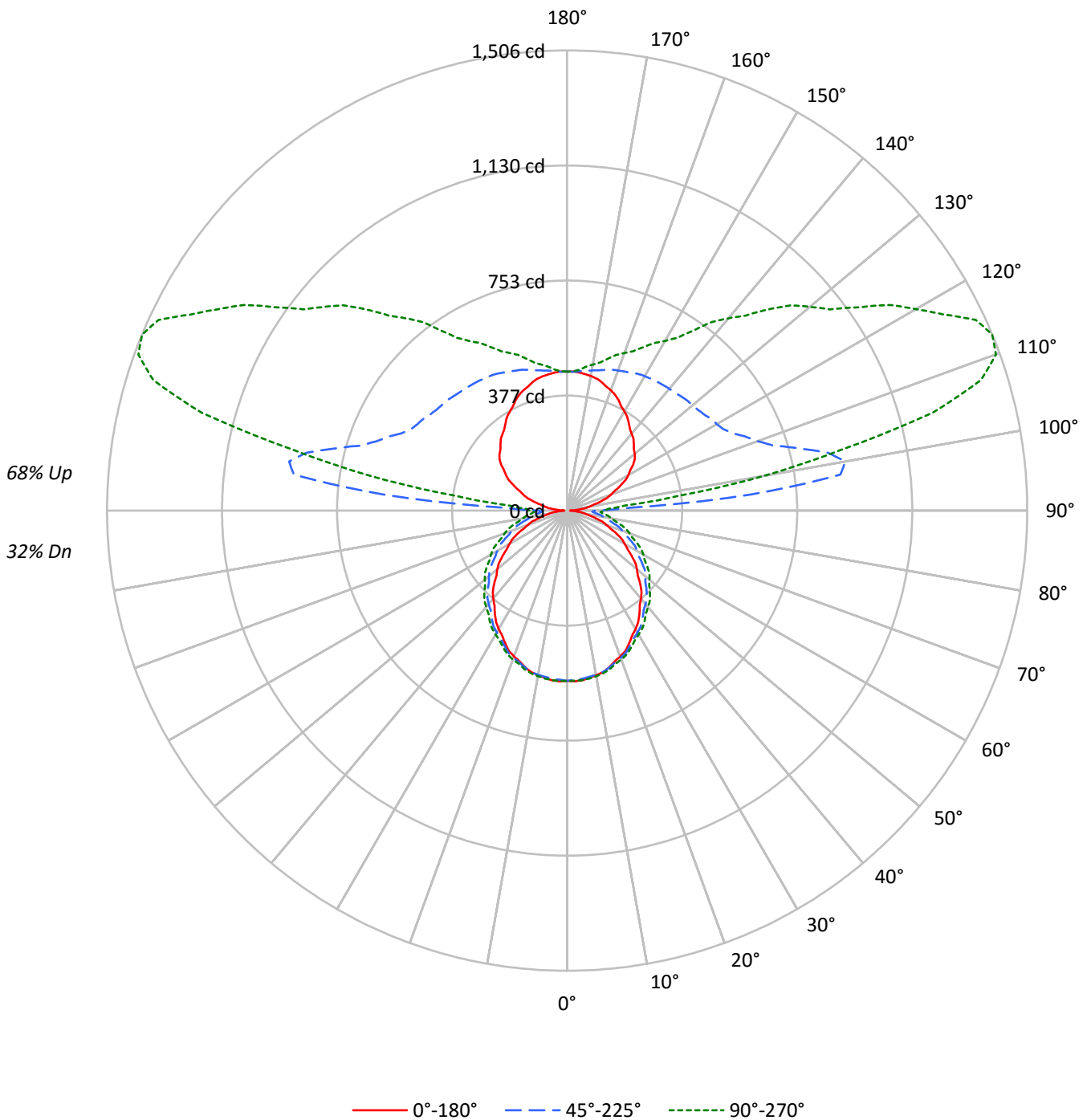
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331951-927

CATALOG NUMBER: S123DIP-S560D1195U927-4F0-1E-UDD-D4

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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40
1	93	89	85	81	84	80	76	73	63	61	59	48	47	45	34	33	32
2	85	77	71	65	76	69	64	60	55	51	48	42	39	37	30	28	27
3	77	67	60	54	69	61	54	49	48	44	40	37	34	31	26	24	22
4	70	59	52	45	63	54	47	42	43	38	34	33	29	26	23	21	19
5	64	53	45	39	57	48	41	35	38	33	29	29	26	23	21	18	17
6	59	47	39	33	53	43	36	31	34	29	25	26	23	20	19	16	14
7	54	42	34	29	49	38	31	27	31	26	22	24	20	17	17	15	13
8	50	38	31	25	45	35	28	23	28	23	19	22	18	15	16	13	11
9	47	35	27	22	42	32	25	21	26	21	17	20	16	14	14	12	10
10	44	32	25	20	39	29	23	18	23	19	15	18	15	12	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5997	5997	5997
5°	6015	5845	5849
10°	5961	5711	5682
15°	5884	5558	5501
20°	5774	5383	5300
25°	5639	5182	5090
30°	5500	5002	4877
35°	5344	4810	4707
40°	5195	4636	4524
45°	5031	4469	4378
50°	4868	4304	4219
55°	4689	4134	4074
60°	4513	3964	3925
65°	4335	3780	3750
70°	4066	3576	3568
75°	3724	3338	3386
80°	3326	3109	3176
85°	2963	2948	3053



TEST NUMBER: P331951-927

CATALOG NUMBER: S123DIP-S560D1195U927-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.8	1.0
10°-20°	150.5	2.8
20°-30°	225.2	4.3
30°-40°	268.9	5.1
40°-50°	281.3	5.3
50°-60°	264.0	5.0
60°-70°	220.5	4.2
70°-80°	157.8	3.0
80°-90°	97.6	1.8
90°-100°	312.1	5.9
100°-110°	759.9	14.3
110°-120°	733.8	13.9
120°-130°	578.7	10.9
130°-140°	450.7	8.5
140°-150°	332.4	6.3
150°-160°	230.6	4.4
160°-170°	135.5	2.6
170°-180°	44.1	0.8
0°-30°	428.5	8.1
0°-40°	697.4	13.2
0°-60°	1242.7	23.5
0°-90°	1718.5	32.4
90°-120°	1805.7	34.1
90°-150°	3167.6	59.8
90°-180°	3578.0	67.6
0°-180°	5296.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	557	557	557	557	557	
5°	558	556	553	557	557	53
15°	531	533	532	538	538	149
25°	479	485	487	495	495	221
35°	413	422	430	439	442	258
45°	337	352	367	378	384	260
55°	257	277	299	315	320	230
65°	178	202	228	246	252	176
75°	96	125	155	175	183	103
85°	30	60	92	112	119	31
90°	10	49	92	114	122	8
95°	38	132	606	237	192	39
105°	112	178	786	1356	1239	118
115°	192	246	598	1287	1475	190
125°	264	312	548	989	1159	235
135°	309	368	528	806	932	238
145°	351	402	514	651	719	220
155°	398	430	498	566	590	183
165°	435	448	477	506	514	123
175°	454	454	457	464	463	43
180°	455	455	455	455	455	



TEST NUMBER: P331951-927

CATALOG NUMBER: S123DIP-S560D1195U927-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1
2.5°	559.5	559.2	558.9	558.5	558.2	557.6	556.7	555.9	555.0	554.1	555.0
5°	557.7	557.4	557.1	556.9	556.6	556.0	555.2	554.4	553.7	552.8	553.9
7.5°	552.2	552.2	552.3	552.4	552.5	552.1	551.3	550.5	549.7	548.9	550.2
10°	547.4	547.6	547.9	548.2	548.4	548.3	547.6	546.9	546.2	545.6	546.9
12.5°	541.5	541.9	542.3	542.6	543.0	543.0	542.6	542.1	541.6	541.1	542.4
15°	531.0	531.4	531.8	532.2	532.6	532.7	532.6	532.4	532.3	532.2	533.5
17.5°	517.6	518.4	519.3	520.1	520.9	521.3	521.2	521.1	521.1	521.0	522.2
20°	507.9	508.7	509.5	510.3	511.1	511.7	512.0	512.2	512.5	512.8	514.0
22.5°	497.7	498.5	499.3	500.2	501.0	501.5	501.9	502.3	502.7	503.0	504.6
25°	479.4	480.8	482.1	483.5	484.8	485.7	486.1	486.5	486.9	487.3	489.0
27.5°	461.0	462.5	464.1	465.6	467.1	468.3	469.1	470.0	470.9	471.7	473.2
30°	447.8	449.6	451.3	453.1	454.9	456.3	457.3	458.4	459.5	460.6	462.2
32.5°	433.2	435.2	437.2	439.2	441.2	442.8	444.3	445.6	447.0	448.5	450.2
35°	412.6	414.8	416.9	419.1	421.3	423.3	425.0	426.7	428.5	430.2	432.3
37.5°	390.8	393.2	395.6	398.1	400.5	402.8	405.0	407.1	409.2	411.5	413.8
40°	376.2	378.7	381.1	383.5	386.0	388.5	391.2	393.9	396.6	399.3	401.6
42.5°	360.2	363.2	366.1	369.1	372.1	374.9	377.8	380.6	383.4	386.2	388.7
45°	337.4	340.6	343.9	347.1	350.3	353.6	357.0	360.4	363.8	367.1	369.7
47.5°	313.5	317.2	320.8	324.5	328.1	331.9	335.8	339.6	343.5	347.4	350.2
50°	297.9	301.7	305.5	309.3	313.1	317.0	321.2	325.4	329.5	333.7	336.8
52.5°	281.5	285.4	289.5	293.4	297.4	301.7	306.3	310.9	315.5	320.2	323.4
55°	257.3	261.7	266.2	270.6	275.1	279.7	284.6	289.5	294.3	299.1	302.8
57.5°	233.8	238.4	243.0	247.6	252.3	257.3	262.6	267.9	273.2	278.5	282.2
60°	217.2	222.1	227.0	231.8	236.6	241.9	247.4	252.9	258.4	264.0	267.8
62.5°	201.7	206.7	211.7	216.6	221.6	227.0	232.8	238.7	244.5	250.4	254.1
65°	177.8	183.1	188.3	193.6	198.8	204.5	210.4	216.3	222.2	228.1	232.2
67.5°	153.5	159.1	164.7	170.2	175.9	181.6	187.7	193.8	199.8	205.8	210.2
70°	136.6	142.4	148.1	153.9	159.7	165.9	172.3	178.8	185.3	191.8	196.1
72.5°	121.0	126.8	132.6	138.4	144.2	150.4	157.1	163.8	170.5	177.2	181.6
75°	96.5	102.8	109.2	115.5	121.8	128.4	135.1	141.9	148.6	155.3	159.8
77.5°	75.1	81.5	87.9	94.3	100.7	107.3	114.1	120.9	127.7	134.5	139.2
80°	60.0	66.7	73.3	79.9	86.5	93.3	100.3	107.3	114.4	121.4	126.0
82.5°	47.0	53.7	60.4	67.1	73.8	80.7	87.9	95.0	102.1	109.2	113.8
85°	29.7	36.4	43.3	50.0	56.7	63.6	70.8	78.0	85.1	92.2	96.8
87.5°	16.5	23.6	30.7	37.9	45.0	52.2	59.7	67.0	74.5	81.9	86.3
90°	9.7	18.1	26.6	36.0	44.4	53.0	62.7	72.3	81.9	91.6	95.2
92.5°	18.9	30.3	44.0	57.1	70.8	90.8	121.7	168.0	213.7	206.2	175.9
95°	37.9	46.0	61.4	82.3	111.5	153.3	238.1	381.9	539.5	605.9	507.0
97.5°	59.3	65.0	77.6	96.0	124.4	168.7	249.8	410.7	668.6	901.6	964.6
100°	73.6	78.8	89.6	106.8	133.2	174.4	244.9	387.4	635.6	924.4	1109.6
102.5°	88.6	94.1	103.7	119.7	143.5	181.4	245.3	367.0	588.7	873.6	1114.0
105°	111.6	117.6	126.4	140.7	161.4	194.4	249.9	350.5	530.3	785.5	1053.4
107.5°	135.5	141.1	149.2	162.8	181.9	212.5	261.7	345.9	491.7	707.3	950.7
110°	152.7	158.0	164.9	177.5	195.6	225.3	272.1	347.5	476.2	662.9	886.4



TEST NUMBER: P331951-927

CATALOG NUMBER: S123DIP-S560D1195U927-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	169.0	173.7	180.3	192.4	210.1	238.7	282.3	352.3	466.1	632.0	829.6
115°	191.7	197.0	204.1	215.0	232.3	260.3	300.2	361.2	459.9	598.2	760.7
117.5°	215.0	220.2	225.8	235.3	253.7	279.6	318.7	373.4	457.6	576.3	717.2
120°	230.7	234.1	239.4	249.3	267.4	293.0	330.6	382.9	458.2	565.8	694.0
122.5°	244.7	247.8	252.7	263.0	280.1	306.9	343.6	392.0	461.1	558.2	674.5
125°	264.1	265.9	271.5	281.6	299.1	325.9	362.0	406.5	465.6	547.7	649.0
127.5°	279.4	282.0	288.8	298.9	318.1	344.5	378.8	418.5	471.4	540.7	626.1
130°	289.0	291.6	299.8	310.7	329.9	356.0	389.0	426.7	475.5	536.1	613.2
132.5°	295.9	299.4	308.3	321.5	340.9	366.1	397.8	434.2	478.0	533.0	601.1
135°	308.6	312.2	322.2	335.8	355.1	380.6	410.6	443.3	481.6	528.2	584.9
137.5°	320.7	324.4	334.2	348.9	367.9	391.3	419.5	450.2	483.8	523.3	570.8
140°	328.3	332.9	342.1	356.8	375.2	398.4	425.5	453.5	485.2	520.6	562.2
142.5°	337.1	340.9	350.7	363.8	382.1	403.7	429.7	456.7	485.8	517.2	554.1
145°	351.3	353.9	362.0	375.7	391.3	412.3	436.3	461.1	486.9	514.5	545.0
147.5°	365.0	366.7	374.8	386.7	401.9	419.9	441.8	464.1	486.9	511.0	536.5
150°	374.6	375.5	382.9	394.8	407.7	424.3	445.4	464.8	486.9	508.0	531.1
152.5°	384.2	384.4	391.7	402.2	413.6	429.4	447.7	466.3	484.7	504.4	525.2
155°	398.5	398.5	404.1	413.3	423.3	436.3	451.9	466.7	482.3	498.0	516.3
157.5°	410.0	410.7	415.1	423.2	431.8	441.8	454.3	467.5	479.2	492.3	506.4
160°	418.7	418.7	422.5	429.8	436.3	445.4	456.5	467.5	477.7	487.8	499.8
162.5°	425.4	425.4	428.3	434.3	440.0	447.7	457.2	466.8	474.8	483.4	493.1
165°	435.4	434.4	436.3	440.8	444.6	451.0	458.4	464.8	470.3	476.7	484.1
167.5°	442.9	441.8	442.7	446.2	448.8	452.8	458.2	463.3	465.9	470.2	475.5
170°	447.3	445.4	446.4	449.2	451.0	452.8	457.4	461.1	463.0	465.7	470.3
172.5°	450.3	449.2	449.3	451.4	452.5	453.6	457.4	460.4	460.7	462.0	465.2
175°	453.8	452.8	451.9	453.8	453.8	454.7	456.5	458.4	457.4	457.4	459.3
177.5°	455.4	454.7	453.9	454.7	454.7	454.7	455.4	456.9	455.4	454.7	455.4
180°	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7



TEST NUMBER: P331951-927

CATALOG NUMBER: S123DIP-S560D1195U927-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1
2.5°	555.9	556.7	557.6	558.0	557.9	557.8	557.7	557.5
5°	555.0	556.0	557.1	557.6	557.5	557.3	557.2	557.1
7.5°	551.6	552.9	554.4	554.9	554.8	554.6	554.4	554.3
10°	548.3	549.6	551.0	551.4	551.2	551.0	550.6	550.4
12.5°	543.7	544.9	546.1	546.6	546.4	546.1	545.8	545.6
15°	534.9	536.2	537.6	538.2	538.1	537.9	537.8	537.7
17.5°	523.5	524.7	525.9	526.4	526.2	526.0	525.9	525.6
20°	515.2	516.4	517.6	518.3	518.4	518.6	518.7	518.8
22.5°	506.1	507.7	509.2	509.9	509.8	509.8	509.7	509.6
25°	490.8	492.6	494.3	495.2	495.2	495.2	495.2	495.2
27.5°	474.8	476.3	477.8	478.6	478.7	478.8	479.0	479.0
30°	463.8	465.4	467.1	467.9	467.9	467.9	467.9	467.9
32.5°	451.9	453.6	455.3	456.4	456.7	457.0	457.3	457.6
35°	434.3	436.3	438.3	439.6	440.1	440.7	441.2	441.8
37.5°	416.0	418.3	420.6	422.0	422.4	422.8	423.3	423.7
40°	403.9	406.2	408.4	409.9	410.4	411.0	411.5	412.0
42.5°	391.2	393.7	396.2	397.8	398.6	399.3	400.1	400.8
45°	372.2	374.8	377.4	379.2	380.2	381.4	382.5	383.5
47.5°	353.2	356.0	358.9	360.8	361.6	362.4	363.3	364.1
50°	339.9	343.1	346.2	348.2	349.1	350.1	351.0	352.0
52.5°	326.6	329.8	333.0	335.2	336.4	337.5	338.7	339.8
55°	306.4	310.1	313.7	316.1	317.2	318.2	319.3	320.4
57.5°	285.9	289.5	293.2	295.6	296.9	298.2	299.4	300.7
60°	271.6	275.3	279.1	281.7	283.2	284.6	286.1	287.6
62.5°	257.9	261.7	265.5	268.1	269.4	270.8	272.2	273.5
65°	236.2	240.3	244.4	247.1	248.4	249.8	251.1	252.5
67.5°	214.7	219.1	223.6	226.3	227.4	228.5	229.7	230.8
70°	200.4	204.7	209.1	211.8	213.2	214.5	215.9	217.2
72.5°	186.0	190.4	194.9	197.8	199.2	200.5	201.8	203.2
75°	164.2	168.7	173.2	176.2	177.8	179.4	181.0	182.7
77.5°	143.9	148.5	153.2	156.2	157.5	158.7	159.9	161.2
80°	130.6	135.1	139.7	142.7	144.0	145.4	146.7	148.1
82.5°	118.4	122.9	127.5	130.6	131.9	133.2	134.6	135.9
85°	101.4	106.0	110.6	113.5	114.9	116.2	117.6	118.9
87.5°	91.1	95.9	100.6	103.9	105.1	106.6	108.2	109.3
90°	100.8	106.2	111.8	116.5	117.0	119.3	121.5	122.0
92.5°	151.1	139.6	136.9	135.0	134.6	133.0	135.2	134.8
95°	399.8	297.2	252.6	222.2	206.0	199.2	194.1	191.7
97.5°	889.7	729.4	614.7	507.2	440.7	400.6	377.1	370.5
100°	1145.7	1075.1	971.4	843.3	751.7	685.8	651.3	653.6
102.5°	1228.8	1230.2	1171.2	1091.0	1019.9	968.1	939.4	919.6
105°	1249.6	1345.4	1366.7	1345.2	1304.1	1270.3	1242.1	1238.7
107.5°	1172.5	1325.6	1409.8	1444.9	1446.9	1436.3	1427.5	1420.3
110°	1100.7	1273.5	1393.0	1459.7	1486.5	1495.0	1494.2	1493.4



TEST NUMBER: P331951-927

CATALOG NUMBER: S123DIP-S560D1195U927-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1029.0	1205.5	1338.8	1423.9	1472.3	1496.3	1504.4	1506.0
115°	934.1	1097.6	1236.1	1338.6	1408.7	1450.2	1469.7	1475.4
117.5°	864.2	1005.6	1130.3	1234.2	1307.3	1354.7	1382.3	1389.6
120°	826.9	954.3	1067.8	1162.8	1236.4	1289.0	1311.9	1318.4
122.5°	797.0	912.5	1017.8	1106.1	1171.7	1219.0	1244.3	1252.2
125°	756.8	859.9	951.2	1026.7	1086.5	1128.0	1151.9	1159.3
127.5°	721.2	813.3	895.6	964.5	1017.9	1053.4	1075.1	1081.9
130°	698.6	784.0	861.2	925.4	975.0	1009.0	1029.1	1037.3
132.5°	677.6	756.3	828.1	889.5	936.2	970.3	988.2	994.3
135°	649.0	716.8	779.1	833.1	878.8	907.1	924.4	931.5
137.5°	622.9	678.6	732.3	779.1	817.8	846.4	861.0	865.9
140°	607.5	656.5	702.7	743.5	779.3	805.6	821.1	820.9
142.5°	592.6	634.7	674.8	710.5	741.0	764.5	778.4	778.2
145°	575.6	607.0	637.5	665.0	688.6	708.4	716.4	718.7
147.5°	561.7	586.1	610.2	629.6	647.5	661.2	668.6	669.8
150°	552.2	573.4	592.7	610.4	624.4	634.9	640.6	640.9
152.5°	544.2	562.4	579.5	594.1	605.0	614.4	617.7	617.8
155°	532.0	546.7	560.5	571.6	579.9	587.2	589.1	589.9
157.5°	519.1	531.5	542.1	550.7	557.9	563.5	564.9	564.7
160°	511.7	521.9	531.1	537.5	544.0	549.5	549.5	548.6
162.5°	502.9	511.6	520.0	525.7	530.0	534.7	534.7	533.9
165°	491.5	497.0	503.4	508.0	511.7	515.4	514.5	514.5
167.5°	481.6	485.8	489.5	492.8	494.4	497.0	496.1	496.1
170°	474.9	477.7	481.3	483.2	484.1	486.0	485.1	485.1
172.5°	469.1	471.0	474.0	475.1	475.3	477.1	475.5	474.8
175°	461.1	462.0	463.9	463.9	463.9	464.8	463.9	463.0
177.5°	456.1	456.9	457.6	457.6	456.9	457.6	456.1	456.1
180°	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7

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