

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: P243145

Luminaire Tested: **S122DR-H485D927-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243145
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-58)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DR-H485D927-X4F0-XX-UDD-A-W
Description: DEFINE 2 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1583.5 lumens
Efficiency: N/A
Efficacy: 92.1 lumens/watt
Spacing Criteria (0/90/45): 1.09 / 1.16 / 1.24
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

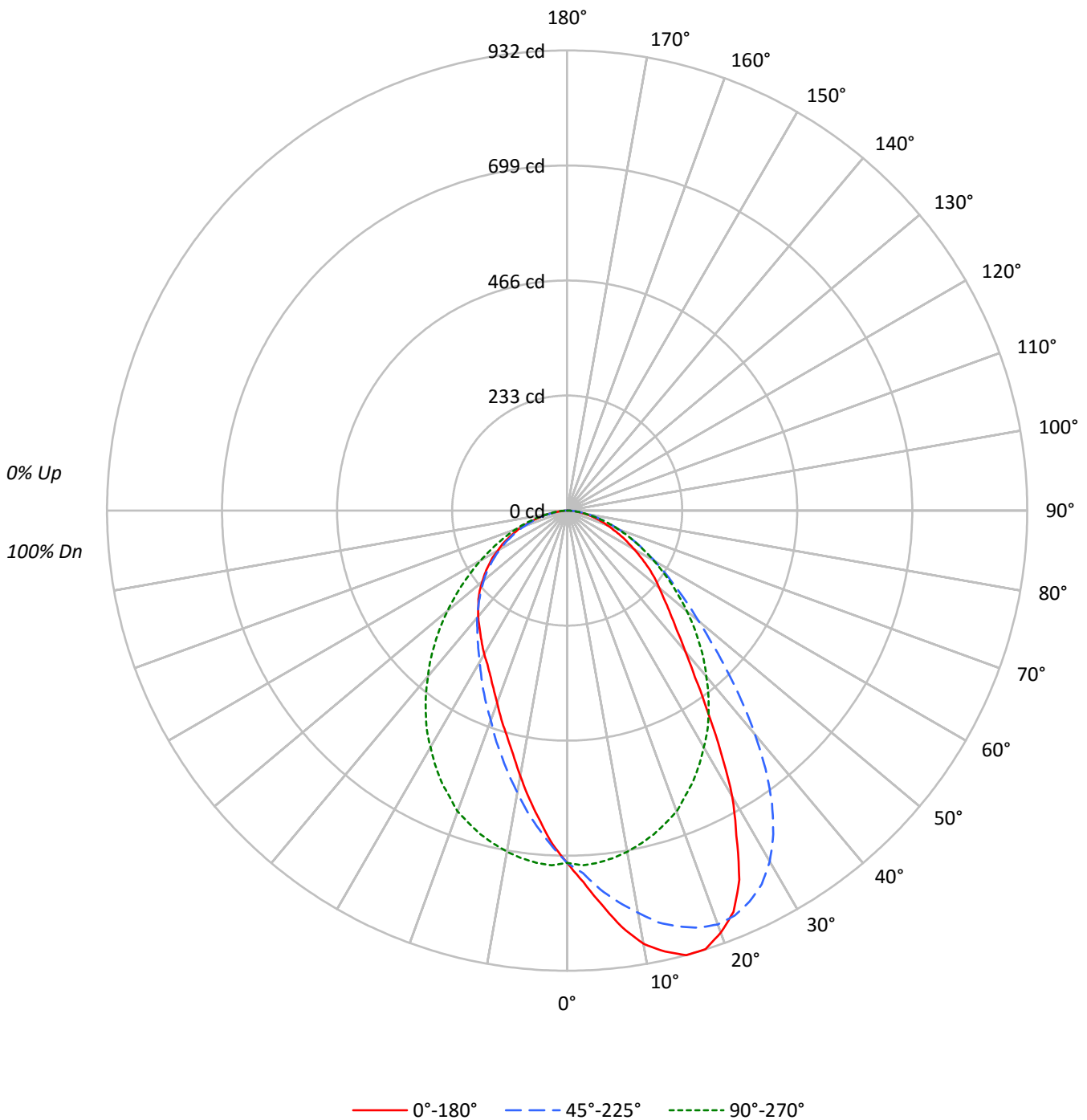
Input Watts (W): 17.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P243145

CATALOG NUMBER: S122DR-H485D927-X4F0-XX-UDD-A-W

Luminous Intensity Polar Plot





TEST NUMBER: P243145

CATALOG NUMBER: S122DR-H485D927-X4F0-XX-UDD-A-W

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	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88					86				
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76					74				
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	73	69	66					63				
4	86	74	66	60	83	73	66	60	71	64	59	68	63	58	66	61	57					55				
5	79	67	59	52	77	66	58	52	64	57	52	62	56	51	60	55	51					49				
6	73	61	52	46	72	60	52	46	58	51	46	57	50	45	55	49	45					43				
7	68	56	47	41	67	55	47	41	53	46	41	52	46	41	51	45	40					39				
8	64	51	43	37	62	50	43	37	49	42	37	48	41	37	47	41	37					35				
9	60	47	39	34	58	46	39	34	45	38	34	44	38	34	43	38	33					32				
10	56	44	36	31	55	43	36	31	42	35	31	41	35	31	40	35	31					29				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	13592	13592	13592
5°	15312	13690	12059
10°	17235	13568	10553
15°	18385	13384	9302
20°	18438	13143	8394
25°	17341	12705	7738
30°	14719	12176	7388
35°	11508	11608	7111
40°	9247	10908	6975
45°	7955	10188	6845
50°	7216	9376	6653
55°	6648	8541	6472
60°	5977	7695	6179
65°	5381	6914	5882
70°	4795	6148	5502
75°	4313	5284	4820
80°	3762	4256	3762
85°	3235	3169	2076



TEST NUMBER: P243145

CATALOG NUMBER: S122DR-H485D927-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.0	4.3
10°-20°	195.4	12.3
20°-30°	284.2	17.9
30°-40°	304.8	19.3
40°-50°	273.2	17.3
50°-60°	217.8	13.8
60°-70°	147.3	9.3
70°-80°	75.1	4.7
80°-90°	17.6	1.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	547.6	34.6
0°-40°	852.4	53.8
0°-60°	1343.4	84.8
0°-90°	1583.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1583.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	714	714	714	714	714	
5°	801	770	716	648	631	79
15°	932	872	679	514	472	261
25°	825	874	604	401	368	371
35°	495	723	499	316	306	314
45°	295	457	378	251	254	231
55°	200	266	257	189	195	179
65°	119	154	153	124	130	118
75°	59	73	72	62	66	63
85°	15	17	14	11	10	17
90°	0	0	0	0	0	



TEST NUMBER: P243145

CATALOG NUMBER: S122DR-H485D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	713.6	713.6	713.6	713.6	713.6	713.6	713.6	713.6	713.6	713.6	713.6
2.5°	753.2	755.6	753.5	752.7	751.1	750.6	746.4	742.9	740.8	735.0	735.5
5°	800.8	806.0	803.1	802.9	797.1	793.4	789.7	784.4	776.5	770.1	765.1
7.5°	850.9	848.3	847.5	844.6	840.4	835.1	826.9	819.2	809.2	800.0	793.1
10°	891.1	890.3	891.6	884.2	881.6	873.4	866.3	854.4	841.4	826.9	817.9
12.5°	914.8	917.2	919.1	916.2	909.8	907.5	895.6	878.9	874.4	854.6	843.8
15°	932.3	933.3	933.6	930.4	927.3	921.2	914.1	903.5	889.0	871.8	863.6
17.5°	931.2	931.0	932.5	930.7	928.8	927.0	921.5	913.3	901.9	885.8	872.1
20°	909.6	914.3	918.0	918.8	918.5	919.6	917.0	911.7	903.5	891.9	876.3
22.5°	880.0	878.1	886.1	885.5	889.0	896.9	900.3	898.2	895.0	887.6	875.2
25°	825.1	826.9	832.4	838.3	851.7	856.5	866.8	874.7	875.8	873.9	866.3
27.5°	742.7	755.9	758.8	766.4	785.2	800.8	821.6	834.0	851.7	853.3	849.9
30°	669.2	668.7	673.2	686.9	704.1	727.6	754.5	786.5	806.8	820.8	825.8
32.5°	578.9	581.0	592.6	609.5	627.0	650.5	681.6	720.7	747.9	777.0	793.4
35°	494.9	501.5	512.6	524.2	543.3	575.5	610.1	642.6	684.3	723.1	749.5
37.5°	425.7	434.7	443.2	454.3	472.7	497.6	528.7	571.8	613.2	660.0	698.8
40°	371.9	375.3	381.1	391.9	404.3	429.2	460.6	492.8	537.7	591.3	642.3
42.5°	329.6	328.8	335.1	342.0	353.4	371.9	399.3	431.5	476.2	523.7	575.2
45°	295.3	295.5	298.2	305.3	314.3	324.8	346.0	376.3	410.2	457.4	512.1
47.5°	267.3	268.1	272.0	277.0	282.3	292.1	306.1	325.9	357.6	397.2	448.4
50°	243.5	244.8	247.5	251.2	255.1	262.0	272.6	288.1	313.2	346.8	393.2
52.5°	222.4	222.9	223.7	227.1	230.3	236.6	244.6	256.7	276.5	304.5	340.7
55°	200.2	199.7	201.5	204.4	207.3	211.8	220.0	229.8	243.8	266.0	295.8
57.5°	177.5	178.3	179.6	181.2	186.5	191.2	197.3	206.3	217.4	234.8	259.6
60°	156.9	156.9	158.5	160.6	164.0	167.2	173.0	181.2	190.9	204.4	225.3
62.5°	136.8	137.9	139.4	140.5	143.7	147.6	152.1	158.5	167.4	178.3	193.9
65°	119.4	118.8	120.4	122.5	124.9	127.6	132.6	137.9	144.7	154.5	167.4
67.5°	101.4	103.0	103.5	104.6	106.4	109.9	112.2	117.8	123.3	132.1	142.9
70°	86.1	87.2	87.9	89.3	90.9	92.4	94.8	99.3	104.8	110.9	118.6
72.5°	72.4	73.2	72.4	73.7	74.5	76.1	79.2	81.3	85.6	90.9	97.7
75°	58.6	59.2	58.9	60.2	60.5	62.1	63.6	65.5	70.3	73.2	77.9
77.5°	46.0	46.5	46.7	47.3	47.8	48.6	49.4	51.2	53.9	56.5	60.2
80°	34.3	34.3	35.1	35.4	35.7	36.2	37.5	38.0	39.9	40.7	43.6
82.5°	23.8	24.0	24.3	24.3	24.6	25.1	25.4	26.4	26.9	28.3	29.6
85°	14.8	15.1	15.1	15.1	15.8	15.6	15.6	16.1	16.9	16.9	17.4
87.5°	7.4	7.7	7.7	7.7	7.9	7.9	7.9	7.9	7.9	8.5	8.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P243145

CATALOG NUMBER: S122DR-H485D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	713.6	713.6	713.6	713.6	713.6	713.6	713.6	713.6	713.6	713.6	713.6
2.5°	735.3	735.0	733.9	729.2	725.5	720.7	719.9	719.1	712.5	705.4	703.3
5°	761.1	756.4	749.8	741.9	733.9	725.2	720.2	716.0	705.9	694.9	688.5
7.5°	786.5	777.3	767.0	754.5	741.3	727.3	718.4	709.9	696.2	681.6	672.9
10°	808.2	795.7	781.5	765.1	746.9	727.9	714.7	701.5	684.0	666.3	654.7
12.5°	826.1	810.3	791.5	769.3	752.7	726.5	708.1	690.6	671.3	648.4	635.7
15°	839.8	824.3	798.9	776.5	754.5	719.7	697.2	678.7	652.9	630.4	610.3
17.5°	856.5	834.3	809.2	777.0	752.7	712.8	687.5	663.4	635.4	609.0	586.8
20°	863.9	840.6	813.7	777.8	746.9	705.4	671.6	648.4	614.6	584.2	559.1
22.5°	864.9	842.7	813.4	775.4	736.8	694.6	655.8	625.4	591.6	559.4	531.1
25°	860.4	839.3	808.9	771.2	725.8	683.0	639.7	604.5	565.4	532.2	503.4
27.5°	848.3	831.1	802.3	761.9	714.4	665.0	617.7	579.4	540.9	503.1	475.6
30°	828.8	817.4	792.6	749.8	699.9	645.5	598.2	553.6	511.8	476.4	446.9
32.5°	803.7	798.1	777.5	735.3	685.1	624.1	574.7	528.7	483.3	449.8	419.4
35°	771.7	774.6	757.2	718.9	666.3	602.4	547.2	499.2	454.8	419.1	391.1
37.5°	730.2	744.5	733.4	697.5	642.3	580.5	518.4	470.1	423.6	389.3	364.7
40°	683.8	708.8	703.6	673.5	616.4	554.9	490.7	438.7	393.2	360.8	337.3
42.5°	629.1	665.5	671.3	644.1	590.8	522.9	459.5	409.4	365.5	333.6	311.1
45°	567.8	613.0	632.5	611.1	561.0	492.0	427.6	378.2	334.9	307.7	288.9
47.5°	506.3	560.7	587.1	576.8	526.1	459.0	395.9	347.6	306.6	282.9	265.2
50°	445.5	503.9	542.5	535.6	491.8	427.6	363.9	316.4	278.9	257.0	241.9
52.5°	392.2	447.4	489.4	492.8	453.5	391.7	330.1	286.0	254.1	234.3	221.6
55°	339.6	390.9	436.8	445.3	413.3	353.9	299.0	257.2	228.2	211.8	201.5
57.5°	292.6	339.1	384.8	399.6	373.7	320.1	265.4	228.7	203.6	190.9	182.0
60°	252.7	294.7	334.1	349.1	331.4	282.6	234.8	202.0	181.2	169.8	162.7
62.5°	217.9	250.4	285.2	301.9	290.0	247.5	205.7	176.7	159.8	150.0	144.5
65°	186.5	211.5	239.0	258.3	245.1	213.4	178.5	153.4	139.2	130.2	126.2
67.5°	157.4	178.3	200.2	215.5	208.9	180.1	150.8	131.3	119.4	112.5	108.8
70°	131.0	146.6	164.3	176.2	171.4	149.2	126.0	110.4	100.4	95.6	92.4
72.5°	107.5	117.5	131.0	140.8	135.7	120.2	103.5	91.1	83.7	78.2	75.8
75°	85.3	94.0	103.5	110.1	106.2	94.5	81.3	71.8	66.8	63.4	61.8
77.5°	64.7	71.6	78.2	81.3	79.5	71.0	62.1	54.7	50.4	48.3	46.5
80°	46.5	50.4	54.9	57.8	56.8	51.0	44.6	38.8	37.0	34.3	33.8
82.5°	31.2	34.3	35.4	36.7	35.9	33.3	28.8	25.4	23.8	22.4	22.2
85°	18.5	19.3	20.6	20.6	19.8	18.0	15.6	14.5	12.9	12.7	11.9
87.5°	8.2	8.2	8.2	8.2	8.2	7.7	6.6	6.1	5.5	5.3	5.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P243145

CATALOG NUMBER: S122DR-H485D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	713.6	713.6	713.6	713.6	713.6	713.6	713.6	713.6	713.6	713.6	713.6
2.5°	701.5	698.8	695.1	690.9	687.2	681.4	679.5	679.5	680.9	679.3	677.9
5°	683.2	677.9	672.7	664.5	657.6	648.4	645.7	643.1	642.8	640.2	636.7
7.5°	663.7	655.8	644.9	633.3	625.9	615.9	610.3	608.8	603.7	599.0	593.4
10°	641.0	628.8	615.9	604.8	593.2	580.2	573.6	569.1	564.1	558.3	554.3
12.5°	613.5	599.8	587.9	574.9	565.2	547.0	544.8	539.0	529.0	520.3	517.1
15°	596.6	572.6	559.1	547.2	532.4	513.7	506.8	500.5	491.0	485.4	480.9
17.5°	566.8	545.1	528.2	512.4	498.1	483.6	473.3	468.0	460.3	455.6	451.1
20°	539.6	516.1	498.4	479.9	465.1	451.9	443.2	436.6	432.6	427.8	423.4
22.5°	512.1	487.5	470.6	451.9	434.4	426.5	416.2	410.7	405.4	401.7	396.9
25°	480.1	460.6	439.5	424.9	409.6	401.4	391.7	386.4	382.2	377.9	375.6
27.5°	451.6	431.8	412.3	397.7	384.8	376.9	370.8	365.8	360.5	357.3	355.5
30°	422.0	403.8	386.6	372.6	362.6	353.9	350.2	345.4	341.5	340.2	337.3
32.5°	395.6	375.3	361.6	348.9	340.4	334.4	331.7	326.7	325.9	324.6	323.0
35°	369.2	351.8	338.6	327.8	320.6	316.1	312.7	311.4	310.1	308.7	307.4
37.5°	343.1	329.3	316.9	308.2	302.4	299.0	298.2	295.5	295.3	293.4	293.4
40°	319.6	305.6	296.9	290.0	285.2	283.6	281.5	281.0	280.2	279.7	280.7
42.5°	296.1	286.6	279.2	272.0	268.3	267.0	266.5	265.7	265.2	266.7	267.3
45°	274.1	266.0	259.6	254.6	252.5	250.9	250.9	251.7	251.4	252.2	252.2
47.5°	253.8	246.4	241.1	239.3	236.6	236.1	236.4	236.1	237.4	238.5	239.5
50°	234.5	227.9	223.7	221.8	221.3	220.5	221.6	222.1	222.9	224.0	224.5
52.5°	213.1	210.0	207.3	205.5	205.2	205.5	205.2	207.1	207.8	209.4	209.2
55°	194.9	192.5	190.7	188.6	188.3	189.1	189.6	191.2	192.3	193.6	193.3
57.5°	177.7	175.9	173.8	173.3	173.0	173.3	175.6	175.4	176.9	178.0	178.5
60°	159.0	157.7	155.8	155.8	156.6	157.1	157.9	159.3	160.8	160.6	162.4
62.5°	141.8	140.2	139.7	140.5	140.2	141.6	142.4	142.4	144.5	145.3	145.8
65°	124.7	124.1	123.3	123.3	124.1	124.4	125.7	126.5	127.3	128.9	130.2
67.5°	108.5	107.2	107.2	106.7	107.8	108.5	109.3	110.4	110.9	112.8	113.6
70°	91.6	91.1	90.9	91.4	91.4	92.2	93.5	94.8	95.9	96.1	97.7
72.5°	75.3	75.3	75.3	76.1	76.6	77.4	77.6	78.7	80.3	80.6	81.3
75°	60.5	60.7	60.5	60.7	61.0	61.8	62.3	63.4	64.4	64.7	65.2
77.5°	46.7	46.2	45.7	46.5	47.0	48.6	48.3	48.9	49.9	49.4	49.9
80°	32.7	33.5	32.5	34.1	34.1	33.8	34.3	35.1	34.9	35.4	34.9
82.5°	22.2	21.4	21.4	22.2	22.4	21.7	22.2	22.4	22.7	22.2	21.9
85°	12.1	11.9	12.4	11.6	11.9	11.4	11.4	10.8	11.4	10.8	10.3
87.5°	4.5	4.2	4.5	3.7	3.4	3.2	2.9	2.9	2.4	2.4	2.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P243145

CATALOG NUMBER: S122DR-H485D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	713.6	713.6	713.6	713.6
2.5°	679.8	676.9	675.6	676.6
5°	633.1	633.8	629.1	630.7
7.5°	592.6	589.2	590.3	588.4
10°	549.9	548.0	545.1	545.6
12.5°	521.1	508.7	507.9	505.5
15°	480.7	473.8	472.2	471.7
17.5°	448.4	442.6	444.7	443.2
20°	419.4	419.7	416.2	414.1
22.5°	393.8	393.2	391.9	389.8
25°	372.1	372.1	369.0	368.2
27.5°	352.3	352.8	350.2	350.2
30°	337.5	335.7	335.4	335.9
32.5°	322.7	320.6	320.9	320.6
35°	306.9	307.4	306.6	305.8
37.5°	293.4	293.4	293.4	292.6
40°	280.2	280.7	279.9	280.5
42.5°	267.0	267.3	267.3	266.2
45°	253.8	253.5	253.0	254.1
47.5°	240.1	240.1	239.8	240.3
50°	225.0	225.5	224.8	224.5
52.5°	209.7	210.0	209.7	210.2
55°	194.1	194.1	194.4	194.9
57.5°	178.0	179.9	178.5	179.6
60°	162.2	162.4	162.7	162.2
62.5°	147.1	146.8	147.1	147.9
65°	130.7	131.3	131.0	130.5
67.5°	114.6	114.1	114.9	114.1
70°	97.5	98.5	97.7	98.8
72.5°	81.9	81.6	82.1	80.8
75°	65.5	65.5	65.8	65.5
77.5°	50.2	49.7	49.4	48.6
80°	34.6	34.6	33.5	34.3
82.5°	21.1	21.4	21.7	20.1
85°	10.0	10.0	9.8	9.5
87.5°	2.1	2.1	2.4	2.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)