

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: P242285

Luminaire Tested: **S122DR-S485D927-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242285
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-19)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DR-S485D927-X4F0-XX-UDD-A-W
Description: DEFINE 2 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1632.7 lumens
Efficiency: N/A
Efficacy: 86.8 lumens/watt
Spacing Criteria (0/90/45): 1.09 / 1.16 / 1.23
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

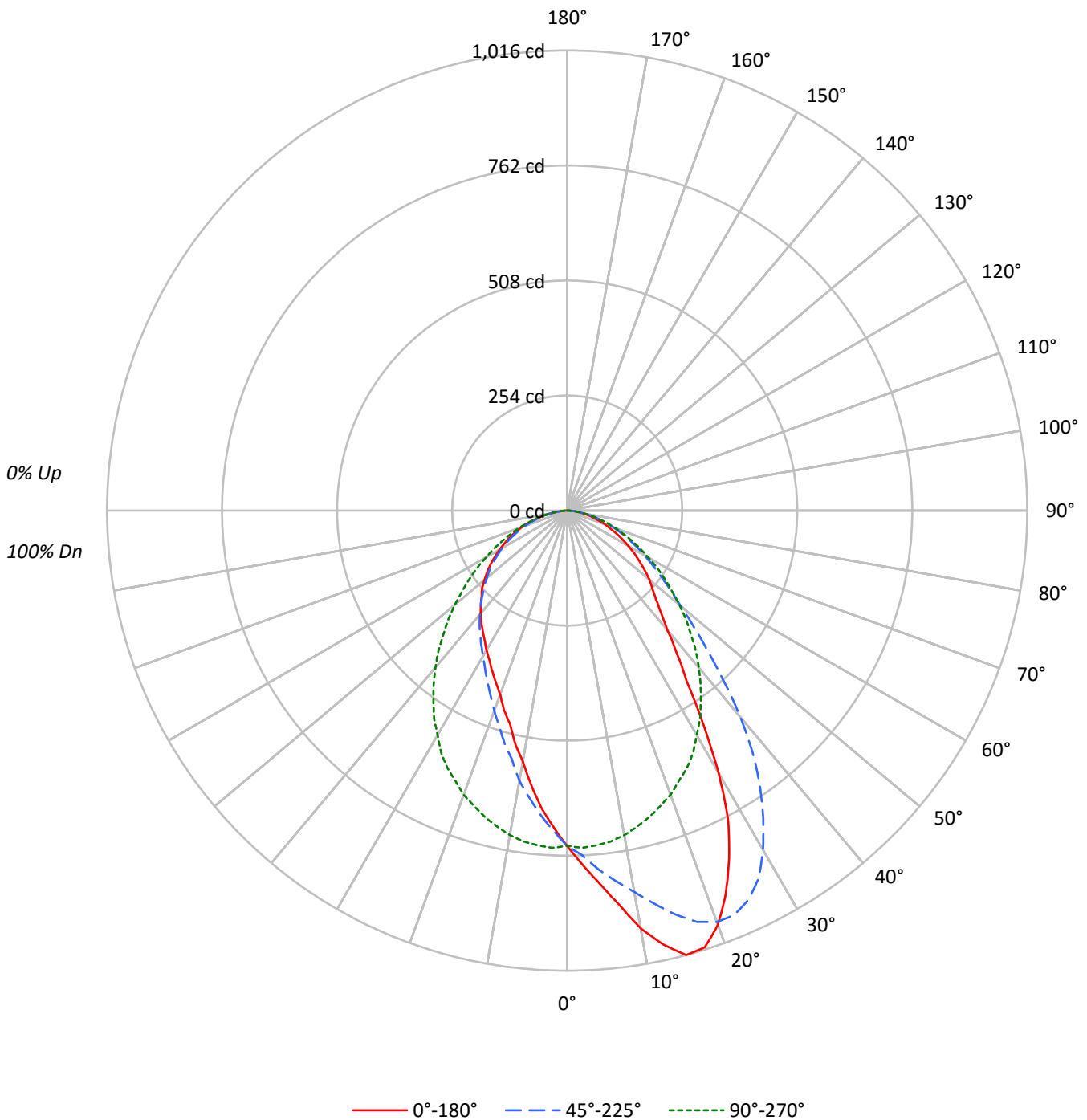
Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	64
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	58	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49
6	74	61	53	47	72	60	52	46	58	51	46	57	51	46	55	50	45	43
7	69	56	48	42	67	55	47	42	54	46	41	52	46	41	51	45	41	39
8	64	51	43	38	63	51	43	38	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	14097	14097	14097
5°	15805	14189	12574
10°	18111	14073	10882
15°	20035	13816	9613
20°	19729	13538	8763
25°	17791	13169	8226
30°	14701	12581	7832
35°	10715	11964	7553
40°	8559	11239	7397
45°	7478	10398	7187
50°	7029	9583	7047
55°	6479	8757	6858
60°	5939	7878	6568
65°	5408	7090	6283
70°	4912	6321	5859
75°	4357	5461	5188
80°	3740	4519	4179
85°	3366	3366	2491



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.5	4.3
10°-20°	205.2	12.6
20°-30°	297.8	18.2
30°-40°	313.9	19.2
40°-50°	277.7	17.0
50°-60°	221.7	13.6
60°-70°	150.6	9.2
70°-80°	77.1	4.7
80°-90°	18.2	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°	573.4	35.1
0°-40°	887.4	54.3
0°-60°	1386.8	84.9
0°-90°	1632.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1632.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	740	740	740	740	740	
5°	827	796	742	674	658	82
15°	1016	923	701	533	488	282
25°	846	948	627	417	391	384
35°	461	742	514	334	325	298
45°	278	440	386	264	267	218
55°	195	253	264	199	206	175
65°	120	150	157	131	139	119
75°	59	72	74	67	70	63
85°	15	17	15	13	11	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	740.1	740.1	740.1	740.1	740.1	740.1	740.1	740.1	740.1	740.1	740.1
2.5°	782.8	783.1	783.6	779.1	778.5	778.5	774.5	771.1	767.1	761.7	762.3
5°	826.6	829.7	830.8	827.4	822.3	821.7	816.9	808.9	801.5	795.6	791.3
7.5°	877.2	878.3	876.1	872.1	868.7	862.1	854.2	846.5	835.1	824.9	817.5
10°	936.4	938.1	933.2	926.7	921.3	913.3	900.2	886.9	870.7	855.0	842.5
12.5°	981.3	986.1	979.6	980.2	969.9	958.3	942.1	936.9	912.5	889.1	875.5
15°	1016.0	1015.7	1016.3	1010.9	1004.1	1002.4	985.9	967.9	935.8	923.0	900.8
17.5°	1010.9	1014.9	1017.1	1015.4	1014.3	1011.7	1004.6	991.3	973.6	952.0	925.6
20°	973.3	979.0	979.9	986.4	990.1	995.0	996.9	993.8	983.9	966.5	944.3
22.5°	915.3	915.9	919.0	930.1	939.2	953.1	960.5	974.5	972.2	965.9	948.3
25°	846.5	843.6	853.6	858.7	877.2	896.5	910.5	925.8	939.5	947.7	942.3
27.5°	770.3	764.3	779.4	792.7	805.8	824.6	845.6	870.7	889.7	915.6	921.9
30°	668.4	671.0	685.2	699.7	722.5	752.0	776.5	804.7	835.1	865.0	885.7
32.5°	558.6	570.3	578.0	602.2	621.5	655.3	694.0	731.0	770.8	805.8	840.8
35°	460.8	472.2	484.7	500.9	529.1	561.8	596.7	644.2	696.0	742.4	780.5
37.5°	398.8	396.8	404.5	416.4	440.6	468.8	510.3	558.6	620.6	672.1	723.3
40°	344.2	343.0	348.1	359.0	376.3	395.7	430.9	472.2	528.8	595.3	659.3
42.5°	306.6	307.8	310.0	316.9	327.4	342.5	366.6	400.2	450.8	512.6	582.5
45°	277.6	279.6	282.7	286.4	293.3	306.3	321.1	346.2	387.1	439.5	507.1
47.5°	254.9	255.4	258.8	262.2	266.2	274.2	287.3	303.2	334.5	379.2	439.7
50°	237.2	235.2	237.5	240.1	244.3	249.5	257.4	272.2	291.5	326.0	374.6
52.5°	215.6	216.2	218.2	218.7	222.4	227.5	234.7	243.8	260.8	285.9	323.7
55°	195.1	196.5	197.7	199.4	202.8	206.5	212.2	219.0	232.7	252.9	282.4
57.5°	175.8	176.4	177.2	180.9	182.9	186.3	192.0	198.3	207.4	223.0	246.3
60°	155.9	155.9	158.1	159.6	162.4	165.8	170.1	176.1	184.0	196.3	214.2
62.5°	137.7	137.4	138.0	140.5	142.5	145.6	149.9	154.7	162.1	172.7	186.6
65°	120.0	119.5	121.2	121.7	124.0	127.1	130.6	136.0	141.9	149.9	163.0
67.5°	102.4	103.3	104.4	105.5	106.7	110.4	112.6	116.6	121.7	128.6	137.7
70°	88.2	88.2	88.2	89.0	90.7	92.4	94.7	97.8	102.7	108.4	116.3
72.5°	72.2	73.4	74.5	73.7	75.9	76.8	79.6	81.1	85.6	88.7	95.6
75°	59.2	59.2	59.2	60.6	61.4	62.3	64.0	65.7	68.0	72.5	76.2
77.5°	46.6	46.4	46.6	46.9	48.1	49.2	49.8	51.2	53.5	55.7	59.2
80°	34.1	34.7	35.0	35.6	35.6	36.1	36.4	38.4	39.8	41.2	43.2
82.5°	24.5	24.5	24.5	24.5	24.7	25.0	25.9	26.2	26.5	27.6	29.0
85°	15.4	15.1	15.1	15.6	15.4	15.4	15.9	16.5	16.5	16.8	17.6
87.5°	7.4	7.4	7.7	7.4	7.4	7.7	7.7	7.4	7.7	8.0	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



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	740.1	740.1	740.1	740.1	740.1	740.1	740.1	740.1	740.1	740.1	740.1
2.5°	764.3	762.0	760.6	755.5	750.9	746.4	744.9	745.5	739.2	733.3	730.7
5°	789.0	783.3	777.9	770.3	761.1	751.2	746.1	742.1	732.1	721.3	715.1
7.5°	811.5	804.1	794.4	780.8	768.3	753.5	744.4	736.7	722.8	708.2	699.4
10°	831.7	820.6	807.2	789.6	773.4	754.3	741.0	727.6	710.5	692.3	680.9
12.5°	849.0	833.1	820.0	796.1	776.2	751.2	734.7	714.5	696.3	673.8	662.7
15°	878.6	851.0	826.0	800.4	776.8	743.5	725.9	700.6	677.0	650.2	637.4
17.5°	900.5	870.7	832.0	801.0	774.8	739.2	713.9	683.8	657.0	627.5	610.4
20°	918.7	883.2	840.8	802.1	769.1	727.0	698.9	667.9	635.1	600.7	582.0
22.5°	929.5	891.7	849.9	797.8	757.7	717.1	679.8	645.1	611.8	574.0	554.1
25°	930.1	896.0	851.6	795.9	748.6	702.3	659.6	626.6	586.5	551.8	523.1
27.5°	920.7	893.7	850.7	791.9	738.1	684.9	638.6	602.4	560.1	522.5	493.8
30°	900.0	885.7	844.2	785.0	725.0	666.7	614.4	572.0	529.9	491.8	462.2
32.5°	867.8	867.5	832.3	775.4	711.1	643.7	589.1	546.1	498.3	461.1	433.2
35°	823.7	837.4	814.3	760.0	692.9	622.1	563.5	514.5	466.2	430.4	403.9
37.5°	767.7	799.3	790.2	739.5	669.6	599.0	535.3	484.1	437.7	400.8	374.9
40°	709.4	752.6	758.9	715.4	644.5	571.4	502.9	452.0	407.0	374.0	347.9
42.5°	646.8	699.1	719.1	686.3	617.2	542.4	473.9	420.7	376.3	344.5	322.0
45°	575.4	642.3	673.3	653.3	586.2	510.0	439.5	386.0	345.6	315.4	297.5
47.5°	510.8	583.4	622.9	613.5	552.9	477.3	407.6	355.5	315.4	291.0	274.2
50°	441.4	516.5	566.9	569.2	516.5	441.7	371.8	323.4	287.3	264.8	251.7
52.5°	381.1	452.0	508.0	522.5	475.9	404.8	339.6	291.5	260.8	240.6	229.3
55°	330.2	390.8	451.7	473.9	435.5	367.2	306.1	263.7	233.8	219.6	209.3
57.5°	281.9	335.1	392.8	416.1	391.7	331.7	272.5	235.2	209.9	197.1	189.1
60°	245.2	285.0	335.1	364.4	343.9	291.8	241.8	206.8	186.9	175.8	168.4
62.5°	211.1	245.2	285.6	311.7	302.9	254.6	211.1	181.2	164.7	154.4	149.6
65°	179.8	207.6	240.3	265.1	257.7	220.4	183.7	157.3	143.6	135.4	131.1
67.5°	153.0	174.4	197.7	220.4	214.2	186.6	155.6	134.3	123.7	116.3	113.8
70°	128.0	143.4	163.6	180.9	176.1	154.4	131.1	113.5	104.7	98.7	96.1
72.5°	104.1	116.0	130.3	143.6	140.8	123.7	105.2	93.0	86.8	81.3	79.4
75°	82.2	91.9	101.3	110.6	109.8	95.9	84.5	74.2	68.8	64.6	63.7
77.5°	64.3	70.3	77.1	83.1	81.6	72.5	63.1	56.9	52.6	49.8	49.5
80°	46.4	49.5	54.0	58.0	56.0	52.6	45.5	41.2	38.4	35.6	34.4
82.5°	30.4	33.6	35.8	37.5	36.1	33.0	29.3	26.7	25.3	23.6	23.3
85°	17.6	19.3	20.5	21.0	20.5	18.5	16.5	15.4	13.9	13.1	12.8
87.5°	8.5	8.5	8.5	9.1	8.2	8.2	7.1	6.3	6.0	5.7	5.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	740.1	740.1	740.1	740.1	740.1	740.1	740.1	740.1	740.1	740.1	740.1
2.5°	727.9	726.2	720.2	717.1	711.9	707.1	704.0	705.4	706.5	706.0	705.1
5°	709.4	704.0	695.7	688.6	683.5	674.1	670.1	668.1	666.4	664.4	662.5
7.5°	688.9	681.2	669.6	660.5	651.4	639.4	633.4	630.0	626.3	622.1	618.1
10°	666.7	654.8	642.3	628.0	616.7	606.1	596.7	590.5	584.8	579.4	575.4
12.5°	643.4	629.2	613.0	592.2	579.4	563.2	563.8	551.5	541.9	539.0	534.2
15°	618.4	599.0	579.4	556.4	546.4	532.7	524.2	515.7	508.0	502.6	501.2
17.5°	591.1	565.2	546.1	529.1	512.8	498.9	491.5	484.7	478.1	470.2	469.9
20°	558.9	537.3	516.0	501.5	484.7	470.5	460.8	454.0	448.6	444.3	440.6
22.5°	528.5	504.3	485.2	469.0	452.5	441.7	434.6	428.1	423.8	419.0	415.6
25°	495.5	477.0	455.7	437.7	424.1	416.7	410.4	404.8	401.9	398.8	394.8
27.5°	467.3	446.8	425.8	411.9	399.3	392.8	388.0	383.7	381.1	379.2	376.6
30°	437.2	416.4	400.8	387.1	377.2	370.6	367.8	365.5	362.4	361.2	360.1
32.5°	408.2	390.0	377.2	365.8	356.4	352.7	350.1	348.1	345.9	344.7	342.2
35°	381.1	365.5	352.4	345.9	338.2	334.5	332.5	329.7	327.4	326.2	326.0
37.5°	355.3	341.0	332.2	323.4	319.7	317.7	314.9	312.9	312.0	311.7	311.5
40°	330.2	319.1	311.5	304.6	303.2	299.8	297.5	295.8	295.8	296.1	295.8
42.5°	307.5	297.8	291.3	285.6	283.9	282.2	279.9	280.2	280.7	281.9	280.7
45°	284.4	277.3	272.5	269.6	266.5	264.5	264.2	265.1	265.4	265.7	266.5
47.5°	262.8	258.3	253.7	250.3	248.9	248.6	248.0	249.5	250.9	251.2	252.6
50°	244.0	238.6	234.9	233.0	231.8	231.2	231.8	233.5	234.7	236.1	236.9
52.5°	223.0	219.6	217.3	215.9	215.6	216.2	216.2	218.2	220.2	220.4	220.7
55°	203.9	201.1	200.5	198.0	199.1	198.8	200.2	201.4	203.1	204.8	205.1
57.5°	184.6	182.0	180.3	180.6	180.9	182.0	183.2	185.2	187.2	189.1	189.1
60°	165.3	164.1	163.3	163.3	163.8	165.5	167.0	169.0	170.1	171.2	172.1
62.5°	147.6	146.5	145.6	146.2	147.9	148.8	150.5	151.3	152.5	153.6	153.9
65°	128.8	128.3	129.1	129.7	130.0	131.4	133.4	134.3	135.4	136.0	138.0
67.5°	111.8	111.8	111.5	112.4	114.1	114.3	116.3	118.6	118.6	119.7	121.2
70°	94.4	95.0	95.6	96.1	97.6	98.1	99.6	100.4	101.5	102.4	103.3
72.5°	78.5	78.5	79.1	78.8	79.9	81.3	82.5	83.3	84.5	85.6	86.5
75°	62.9	62.9	63.4	63.7	65.1	66.6	66.3	66.8	68.0	69.1	69.7
77.5°	48.6	48.1	48.6	48.9	49.5	50.6	50.9	51.8	53.2	52.9	53.5
80°	35.0	34.1	35.0	35.3	35.3	36.7	36.7	37.3	38.1	37.3	38.1
82.5°	22.5	22.2	22.8	22.8	23.3	23.0	23.6	23.6	24.5	24.2	24.5
85°	12.5	12.2	12.5	12.2	12.5	12.8	12.8	12.5	12.5	13.1	12.2
87.5°	4.8	4.6	4.3	4.3	4.0	3.7	3.4	3.4	3.4	2.8	2.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CATALOG NUMBER: S122DR-S485D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	740.1	740.1	740.1	740.1
2.5°	702.3	701.7	701.7	699.1
5°	658.5	657.6	656.2	657.6
7.5°	616.9	613.2	612.7	609.8
10°	570.6	568.3	568.0	562.6
12.5°	535.3	529.1	530.5	527.9
15°	493.5	493.5	492.4	487.5
17.5°	463.6	463.3	460.8	462.5
20°	437.5	435.8	432.3	432.3
22.5°	412.7	413.0	409.3	410.7
25°	394.5	392.2	390.5	391.4
27.5°	375.7	374.9	374.6	372.0
30°	359.8	357.0	357.5	356.1
32.5°	341.6	341.0	340.2	339.0
35°	325.4	325.7	324.3	324.8
37.5°	310.9	312.0	311.2	311.2
40°	296.7	296.7	296.7	297.5
42.5°	283.0	282.4	281.9	281.6
45°	267.1	267.9	268.2	266.8
47.5°	253.1	253.4	253.1	254.9
50°	238.4	237.8	238.4	237.8
52.5°	222.7	223.0	222.4	222.4
55°	206.2	206.8	206.5	206.5
57.5°	189.4	189.7	190.3	188.9
60°	171.8	173.2	172.9	172.4
62.5°	155.6	155.9	155.9	155.9
65°	138.8	139.4	138.5	139.4
67.5°	120.6	120.9	121.5	121.7
70°	103.8	103.5	104.4	105.2
72.5°	86.2	87.0	86.5	87.0
75°	69.1	70.0	69.7	70.5
77.5°	52.9	53.2	53.2	53.5
80°	38.1	37.5	37.0	38.1
82.5°	23.6	24.2	23.6	23.3
85°	12.2	11.9	11.4	11.4
87.5°	2.8	2.6	2.6	2.3
90°	0.0	0.0	0.0	0.0

(END OF REPORT)