

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: P242413

Luminaire Tested: **S122RDR-S485D935-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242413
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-29)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDR-S485D935-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1537.4 lumens
Efficiency: N/A
Efficacy: 81.8 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 1.16 / 1.02
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

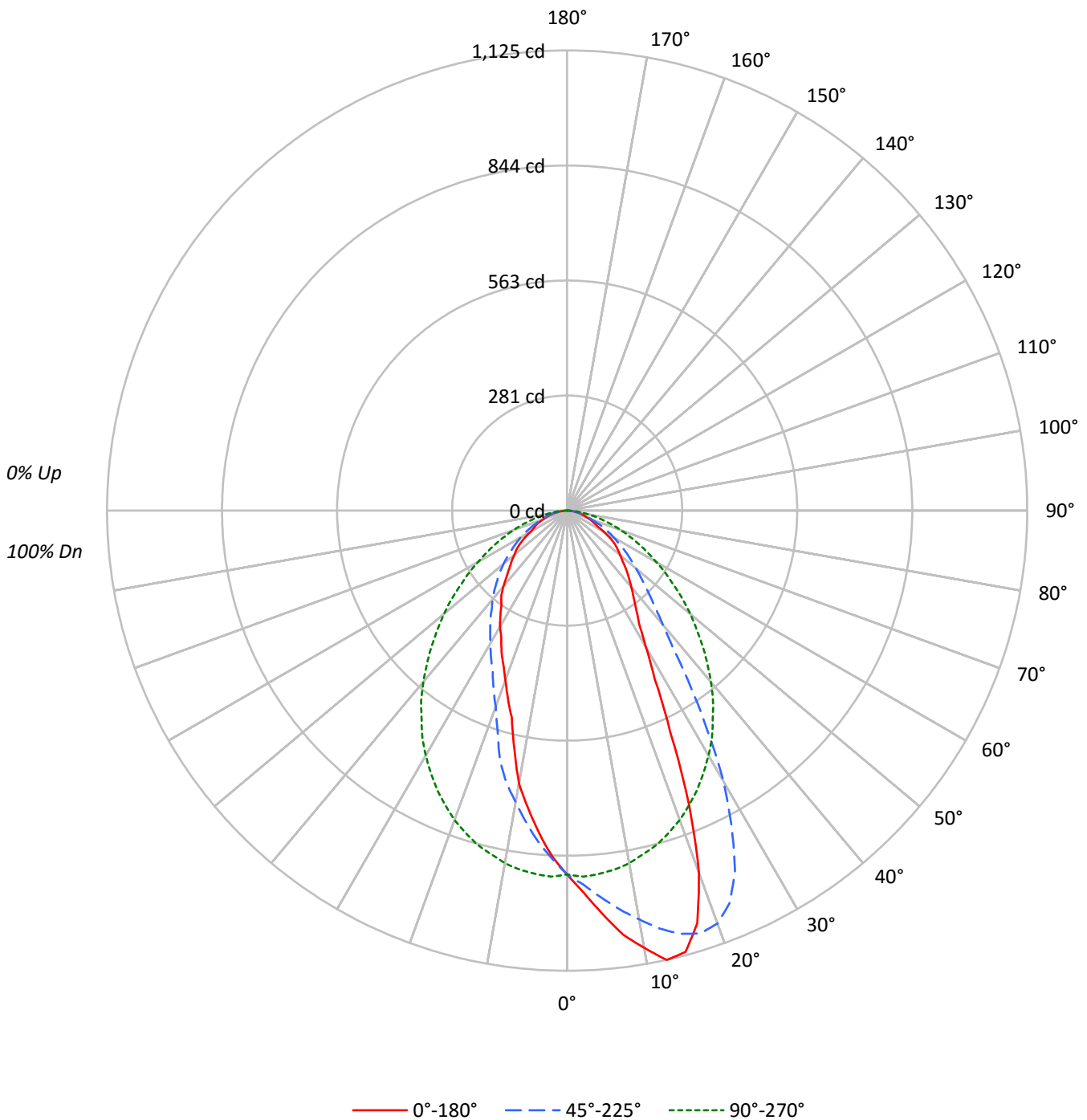
Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	111	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89				87	
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78				76	
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68				66	
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60				59	
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54				52	
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49				47	
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44				42	
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40				39	
9	62	50	43	38	61	50	42	37	49	42	37	47	41	37	47	41	37				35	
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34				33	

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	16947	16947	16947
5°	18925	17052	15119
10°	20999	16932	13106
15°	22031	16685	10327
20°	19099	16317	8935
25°	12526	15813	7978
30°	8430	15203	7221
35°	6829	14433	6513
40°	6072	13596	6027
45°	5495	12615	5379
50°	5002	11643	4984
55°	4702	10564	4639
60°	3931	9573	3886
65°	3317	8694	3763
70°	3063	7763	3548
75°	2863	6756	3275
80°	2644	5561	2918
85°	2426	4393	2557



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.4	5.5
10°-20°	235.5	15.3
20°-30°	303.1	19.7
30°-40°	287.6	18.7
40°-50°	246.4	16.0
50°-60°	187.7	12.2
60°-70°	118.4	7.7
70°-80°	59.1	3.8
80°-90°	15.2	1.0
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°	623.0	40.5
0°-40°	910.6	59.2
0°-60°	1344.7	87.5
0°-90°	1537.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1537.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	890	890	890	890	890	
5°	990	949	892	813	791	98
15°	1117	1071	846	633	524	304
25°	596	971	752	431	380	281
35°	294	528	621	327	280	187
45°	204	278	468	241	200	158
55°	142	173	318	164	140	125
65°	74	99	193	98	84	74
75°	39	44	92	50	44	41
85°	11	11	20	12	12	12
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°	889.7	889.7	889.7	889.7	889.7	889.7	889.7	889.7	889.7	889.7	889.7
2.5°	934.8	935.7	936.7	934.5	934.5	932.6	928.6	925.5	916.9	915.6	915.6
5°	989.8	989.2	990.4	986.4	980.9	979.6	973.7	966.0	958.0	949.0	947.2
7.5°	1045.5	1041.8	1040.2	1042.1	1036.2	1028.2	1018.3	1009.0	995.1	983.6	976.5
10°	1085.7	1095.9	1089.7	1078.9	1081.0	1066.5	1058.8	1045.5	1034.3	1014.9	1010.5
12.5°	1125.2	1127.7	1126.8	1121.8	1117.8	1108.8	1097.7	1086.6	1063.7	1046.7	1028.8
15°	1117.2	1123.1	1124.6	1122.7	1124.3	1123.7	1118.1	1108.5	1090.6	1071.4	1054.7
17.5°	1057.8	1064.6	1070.2	1075.1	1082.9	1098.0	1102.7	1104.5	1097.1	1083.5	1069.6
20°	942.2	935.4	963.9	978.4	990.8	1021.7	1048.2	1058.5	1074.8	1074.5	1071.4
22.5°	778.4	782.1	808.7	826.6	868.6	899.6	930.8	976.2	1011.8	1038.0	1054.1
25°	596.0	607.7	634.6	658.1	698.3	755.8	808.1	868.6	925.8	971.0	1013.9
27.5°	463.7	465.2	489.7	513.5	538.2	588.0	657.8	730.5	812.1	870.8	945.0
30°	383.3	381.5	390.4	403.7	424.1	460.6	510.1	581.2	662.5	763.9	854.1
32.5°	326.4	327.1	333.2	342.2	358.3	379.9	409.9	464.3	540.0	639.3	749.0
35°	293.7	293.4	298.3	305.4	312.5	328.3	351.5	381.8	434.6	527.7	635.9
37.5°	266.5	268.0	270.2	274.8	283.5	292.7	307.3	328.6	368.8	426.6	523.7
40°	244.2	244.8	248.2	251.9	256.6	263.4	274.8	291.2	318.7	362.6	429.1
42.5°	223.8	224.4	226.6	230.0	233.4	240.2	249.2	262.8	283.8	315.6	367.6
45°	204.0	204.0	206.2	207.7	211.8	217.9	225.7	237.4	252.9	278.2	314.7
47.5°	184.9	184.9	186.4	189.2	192.0	196.9	205.0	214.8	226.0	246.7	279.1
50°	168.8	169.1	170.0	172.2	173.7	178.1	183.9	192.3	204.0	219.2	245.1
52.5°	155.8	155.5	156.7	157.3	158.3	161.1	165.1	172.2	182.4	195.1	215.5
55°	141.6	140.3	142.2	143.7	144.7	145.9	148.4	153.0	162.0	173.1	189.2
57.5°	124.9	124.3	125.2	126.7	129.5	132.6	134.2	137.3	141.9	150.5	167.5
60°	103.2	103.2	106.0	107.0	110.4	114.7	119.0	121.5	126.1	131.4	143.1
62.5°	84.1	84.4	85.3	86.2	87.8	93.4	99.8	106.0	110.4	115.3	122.1
65°	73.6	74.2	74.2	74.8	76.0	77.3	79.8	84.1	91.8	98.9	104.8
67.5°	64.3	64.3	64.6	65.2	65.5	67.1	68.0	70.2	71.7	79.8	87.8
70°	55.0	56.0	55.6	56.3	56.6	57.2	58.4	59.4	62.1	63.7	68.0
72.5°	46.4	47.0	47.0	47.3	48.2	48.2	49.2	50.1	51.6	52.9	54.7
75°	38.9	38.6	38.9	39.6	39.9	40.2	40.2	41.4	42.4	43.6	45.1
77.5°	31.5	31.8	31.8	31.8	31.8	32.5	32.5	33.1	34.0	34.6	35.5
80°	24.1	24.4	24.1	24.4	24.7	25.0	24.7	25.0	26.0	26.6	26.6
82.5°	17.3	17.3	17.6	17.6	17.6	17.6	18.2	18.2	18.9	18.5	18.9
85°	11.1	10.8	10.8	10.8	11.1	11.4	11.1	11.1	11.4	11.4	11.4
87.5°	4.9	5.3	5.3	5.3	5.3	5.3	5.3	5.6	5.3	5.6	5.3
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°	889.7	889.7	889.7	889.7	889.7	889.7	889.7	889.7	889.7	889.7	889.7
2.5°	916.3	913.8	911.6	906.1	903.3	897.1	896.2	895.8	887.8	880.1	877.9
5°	942.2	937.3	929.9	921.2	912.2	903.0	896.8	891.8	879.5	867.7	860.9
7.5°	967.9	958.9	947.2	932.3	919.7	904.8	894.6	885.3	868.3	852.9	842.7
10°	997.2	979.9	962.9	940.4	922.7	905.4	889.4	875.4	855.7	833.4	817.6
12.5°	1015.5	996.0	971.0	949.0	924.9	901.7	878.8	860.0	835.9	812.7	793.2
15°	1031.6	1011.2	982.7	951.2	921.8	893.1	868.3	846.1	815.8	788.3	765.4
17.5°	1046.4	1018.3	988.9	952.4	920.0	885.0	853.8	826.0	792.9	760.5	734.5
20°	1052.9	1025.1	989.8	953.3	913.2	870.2	835.9	805.0	768.8	732.6	701.7
22.5°	1048.9	1028.8	988.6	943.1	901.7	856.3	816.4	779.3	738.2	701.1	664.0
25°	1027.8	1020.4	983.3	935.7	888.7	836.5	791.7	752.4	706.7	667.1	628.1
27.5°	989.2	1000.0	973.7	922.1	871.4	815.2	766.3	722.1	675.4	631.2	592.3
30°	928.0	964.8	954.9	907.9	849.5	794.5	737.9	691.2	640.5	594.8	556.4
32.5°	844.2	911.0	925.5	888.1	827.2	765.4	705.4	659.1	605.6	556.7	519.6
35°	754.3	845.2	886.9	861.8	801.3	736.0	674.8	620.7	567.6	520.0	482.9
37.5°	647.6	768.8	833.1	830.3	772.5	706.0	639.6	586.1	531.4	484.4	445.8
40°	544.4	678.5	769.1	789.2	742.2	669.0	601.6	546.8	493.7	447.9	401.9
42.5°	451.6	585.2	701.7	740.4	705.4	632.8	565.1	507.3	456.0	413.3	366.0
45°	380.2	497.1	619.8	682.2	661.5	594.1	522.7	468.3	419.8	382.4	337.3
47.5°	329.2	414.2	537.6	619.2	616.7	552.7	481.6	429.4	383.6	349.0	310.7
50°	286.9	358.6	459.1	554.9	562.9	511.3	444.5	392.9	350.9	314.1	284.7
52.5°	248.8	304.8	392.6	483.5	510.1	467.1	402.8	356.1	315.6	282.5	258.4
55°	216.7	262.4	331.1	417.0	451.6	420.1	362.6	318.1	285.0	256.6	234.9
57.5°	188.6	224.4	281.6	353.6	392.9	371.6	322.4	285.6	256.3	229.7	212.4
60°	162.3	190.4	237.1	294.9	339.4	325.5	285.0	251.3	227.2	205.0	188.9
62.5°	137.6	160.7	199.1	243.3	283.2	279.5	248.2	221.3	200.9	181.1	168.2
65°	114.7	132.3	163.5	200.3	233.1	235.9	212.1	192.9	174.0	158.0	145.9
67.5°	94.9	107.0	130.5	162.9	187.9	196.6	180.5	165.1	149.6	136.6	125.8
70°	77.0	86.2	102.3	127.4	149.9	159.2	150.9	139.4	126.4	116.2	107.3
72.5°	58.7	67.7	78.5	95.2	113.8	124.0	122.4	115.0	105.1	97.1	88.7
75°	47.0	49.8	57.8	70.2	85.3	94.0	96.1	91.8	83.5	77.0	72.0
77.5°	36.5	38.3	42.7	50.1	60.6	68.3	71.7	71.1	64.9	60.6	56.0
80°	27.8	28.7	30.6	33.4	40.8	48.5	50.7	50.7	46.7	45.1	40.5
82.5°	19.5	20.1	21.0	22.3	24.7	31.2	33.7	34.3	32.1	30.0	26.6
85°	12.1	11.7	12.4	13.3	13.9	15.8	19.5	20.1	19.5	17.0	16.1
87.5°	5.3	5.6	5.6	5.3	5.6	5.9	7.4	9.0	7.7	6.8	6.2
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	889.7	889.7	889.7	889.7	889.7	889.7	889.7	889.7	889.7	889.7	889.7
2.5°	873.9	871.7	867.7	861.5	857.8	851.3	847.0	849.5	850.1	849.5	848.9
5°	853.5	847.0	838.0	829.4	821.4	812.7	807.7	805.6	801.3	798.8	797.5
7.5°	830.3	820.7	808.1	794.1	781.2	768.8	763.2	758.9	750.9	746.5	742.5
10°	803.7	786.1	773.4	753.7	741.6	724.0	711.9	712.2	700.2	693.4	688.4
12.5°	774.4	754.6	731.4	714.1	696.2	682.9	667.7	660.3	647.3	640.8	625.4
15°	741.3	718.7	696.5	672.4	655.3	633.4	612.4	586.7	566.0	548.1	543.1
17.5°	706.0	678.2	656.3	631.5	605.0	565.1	539.1	523.4	511.0	501.7	494.3
20°	669.6	641.1	617.3	574.7	535.4	510.4	492.4	481.0	468.0	457.8	452.3
22.5°	631.2	601.3	566.6	517.8	489.3	470.5	455.0	441.4	433.7	426.3	421.3
25°	595.4	562.9	509.4	476.7	451.9	430.9	419.8	411.8	402.5	391.7	386.7
27.5°	558.0	506.3	465.9	442.1	416.7	403.4	393.8	380.5	372.2	368.2	362.6
30°	515.0	463.4	433.4	406.8	390.1	375.0	363.2	356.4	348.4	340.0	336.6
32.5°	467.1	428.4	400.0	379.0	362.0	349.6	341.0	328.9	323.7	319.3	311.3
35°	429.1	397.8	371.6	353.6	337.6	327.1	316.2	309.7	299.2	294.9	292.1
37.5°	394.4	367.2	347.5	327.7	315.3	302.9	296.8	285.9	281.9	275.1	269.6
40°	366.0	339.4	320.6	305.1	290.9	282.2	273.9	265.5	258.7	256.0	248.8
42.5°	336.9	316.5	297.7	280.4	272.0	262.8	251.6	246.1	239.0	234.0	230.3
45°	310.7	291.5	275.4	261.5	251.0	241.4	234.6	224.4	220.4	211.4	207.7
47.5°	287.5	268.9	253.5	239.9	229.4	223.8	213.9	205.0	199.4	193.2	187.9
50°	262.4	247.6	232.8	221.0	211.8	202.8	192.6	188.6	178.7	175.9	173.1
52.5°	239.6	225.7	212.4	200.9	191.7	183.0	174.3	168.8	162.9	160.1	158.3
55°	218.6	205.0	192.0	181.8	172.5	163.5	158.0	151.5	148.4	146.2	143.7
57.5°	196.9	184.5	174.3	163.8	154.6	147.1	140.3	136.6	133.5	131.1	127.7
60°	176.5	164.8	155.8	146.2	136.6	130.8	125.8	121.2	117.5	113.1	111.9
62.5°	154.9	145.0	136.9	127.7	119.6	114.4	109.7	105.4	100.8	94.0	92.1
65°	135.4	127.4	118.7	111.0	103.6	98.3	91.5	86.6	84.7	84.1	83.8
67.5°	117.5	109.7	102.3	94.3	87.5	81.6	77.6	77.0	75.7	75.4	74.5
70°	99.5	92.4	85.0	77.6	71.1	70.2	68.9	67.7	66.2	65.5	64.9
72.5°	83.5	76.0	68.6	63.1	61.2	60.0	58.7	57.5	56.6	56.0	55.6
75°	66.5	59.7	54.7	52.6	51.0	50.1	48.2	47.3	46.7	45.8	45.4
77.5°	50.7	46.4	43.9	42.7	40.8	39.9	38.6	37.7	36.8	36.8	36.2
80°	36.5	34.6	33.1	31.2	30.6	29.4	29.1	28.1	28.4	27.5	27.5
82.5°	26.3	23.8	22.6	21.9	21.3	20.4	20.1	19.8	19.8	19.2	19.2
85°	14.5	13.9	13.3	12.7	12.7	11.7	12.1	11.7	11.7	11.1	10.8
87.5°	5.9	5.6	4.9	4.9	4.9	4.6	4.6	4.3	4.3	4.3	4.0
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: S122RDR-S485D935-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	889.7	889.7	889.7	889.7
2.5°	845.5	846.1	845.2	845.8
5°	796.0	792.3	791.7	790.7
7.5°	737.6	737.3	735.4	733.2
10°	681.6	680.1	679.8	677.6
12.5°	616.1	604.0	602.8	596.6
15°	535.7	533.9	527.7	523.7
17.5°	490.9	484.7	482.5	481.6
20°	447.9	442.4	441.4	440.8
22.5°	418.2	412.4	409.6	407.4
25°	383.6	381.5	380.2	379.6
27.5°	356.4	350.9	350.2	348.7
30°	333.9	332.3	330.1	328.3
32.5°	307.3	306.0	304.2	303.6
35°	289.0	284.7	282.9	280.1
37.5°	268.9	266.5	263.4	264.6
40°	244.8	243.3	242.7	242.4
42.5°	225.7	220.7	218.9	218.9
45°	206.2	202.2	199.4	199.7
47.5°	185.2	185.5	183.6	184.2
50°	170.9	169.1	167.9	168.2
52.5°	157.3	155.8	154.9	156.4
55°	142.2	140.3	140.0	139.7
57.5°	125.8	124.9	123.3	122.4
60°	107.9	105.4	102.3	102.0
62.5°	91.5	91.5	91.5	91.5
65°	83.2	82.8	83.2	83.5
67.5°	74.5	73.9	73.3	73.6
70°	64.3	64.0	63.7	63.7
72.5°	54.4	54.4	54.1	53.8
75°	45.1	44.5	44.5	44.5
77.5°	36.2	35.9	35.5	35.2
80°	27.2	26.9	26.6	26.6
82.5°	19.2	18.9	18.9	18.5
85°	11.1	11.4	11.1	11.7
87.5°	4.0	3.7	4.0	3.7
90°	0.0	0.0	0.0	0.0

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