

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P735866

Luminaire Tested: S122DR-S290D927-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P735866  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2308-143-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/24/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DR-S290D927-X4F0-XX-UDD-W-W  
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1020.7 lumens  
Efficiency: N/A  
Efficacy: 81.7 lumens/watt  
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

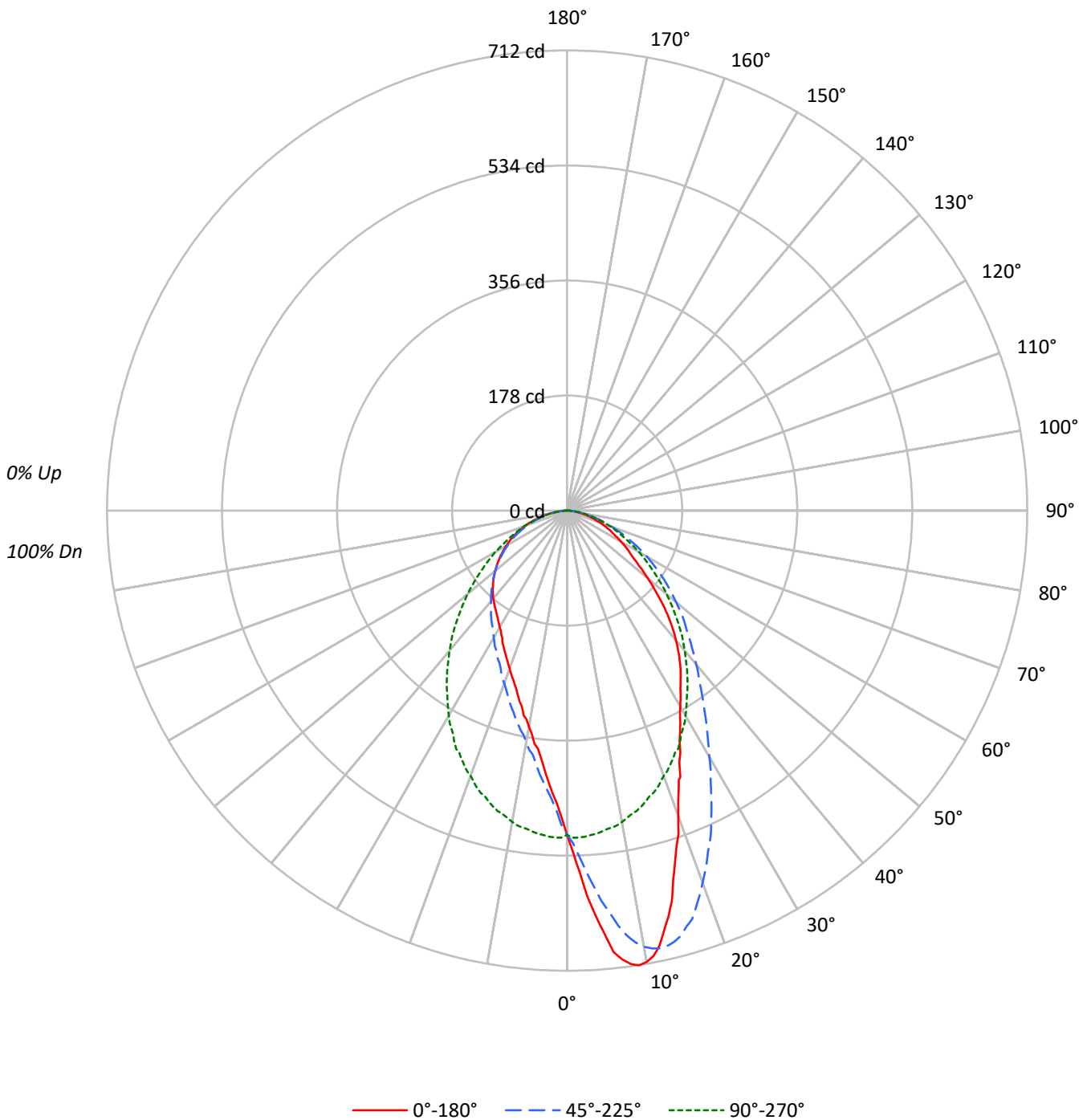
Input Watts (W): 12.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86				86
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74				74
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66	64				64
4	86	75	67	60	83	73	66	60	71	64	59	69	63	58	67	62	58	56				56
5	79	67	59	53	77	66	58	53	64	57	52	62	56	52	61	55	51	49				49
6	74	61	53	47	72	60	52	47	59	52	46	57	51	46	55	50	46	44				44
7	69	56	48	42	67	55	47	42	54	47	42	52	46	41	51	45	41	39				39
8	64	51	43	38	63	51	43	38	50	43	38	48	42	37	47	41	37	35				35
9	60	48	40	35	59	47	40	34	46	39	34	45	39	34	44	38	34	32				32
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31	30				30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	9643	9643	9643	9643	9643
5°	12648	11689	9694	8129	7756
10°	13842	13379	9550	7106	6622
15°	12453	13551	9291	6416	5872
20°	10277	12533	8937	5819	5324
25°	8782	11181	8621	5383	4935
30°	7768	9766	8128	5043	4623
35°	7185	8649	7621	4806	4491
40°	6574	7803	7093	4602	4464
45°	5793	7122	6562	4461	4406
50°	4877	6567	6011	4342	4351
55°	4102	6042	5432	4196	4276
60°	3698	5463	4932	4071	4190
65°	3357	4798	4389	3875	4107
70°	3024	4148	3951	3586	3895
75°	2636	3505	3379	3253	3557
80°	2214	2745	2745	2823	2978
85°	1676	1985	2051	2205	2139

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 10460 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	49.4	4.8
10°-20°	135.5	13.3
20°-30°	177.7	17.4
30°-40°	187.8	18.4
40°-50°	174.4	17.1
50°-60°	139.6	13.7
60°-70°	95.5	9.4
70°-80°	49.2	4.8
80°-90°	11.7	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°	362.6	35.5
0°-40°	550.4	53.9
0°-60°	864.3	84.7
0°-90°	1020.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1020.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	502	502	502	502	502	
5°	656	606	502	421	402	65
15°	626	681	467	322	295	172
25°	414	527	406	254	233	191
35°	306	369	325	205	191	191
45°	213	262	241	164	162	164
55°	122	180	162	125	128	112
65°	74	106	96	85	90	73
75°	36	47	46	44	48	38
85°	8	9	9	10	10	9
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	501.7	501.7	501.7	501.7	501.7	501.7	501.7	501.7	501.7
1°	529.3	526.5	514.4	515.1	506.2	496.2	486.9	481.0	476.2
2°	560.3	554.8	535.8	526.5	506.2	484.8	465.5	460.3	453.8
3°	597.9	584.8	558.6	536.5	505.5	474.4	447.9	438.6	437.5
4°	628.2	616.5	581.7	546.8	503.7	464.4	434.4	424.4	419.6
5°	655.5	647.9	605.8	560.0	502.4	454.8	421.3	407.5	402.0
6°	686.8	671.3	625.1	573.1	500.0	445.5	409.6	393.1	385.5
7°	699.6	689.9	646.8	581.7	496.9	434.8	394.8	376.9	371.3
8°	708.6	704.8	664.1	595.8	495.5	424.8	381.7	370.7	364.1
9°	712.4	709.2	676.5	601.7	493.1	419.6	375.1	356.9	349.6
10°	709.2	710.6	685.5	610.6	489.3	408.9	364.1	348.2	339.3
11°	702.0	705.5	690.3	621.0	484.4	400.3	354.1	337.9	329.3
12°	688.2	695.8	692.4	628.2	480.0	392.7	347.2	331.7	324.1
13°	666.8	683.7	691.0	631.3	477.2	384.1	338.6	320.7	311.0
14°	647.5	665.1	687.2	638.2	472.4	374.4	330.7	312.7	304.5
15°	625.8	646.1	681.0	640.3	466.9	366.5	322.4	302.7	295.1
16°	595.5	622.7	669.6	642.7	460.3	357.6	314.8	296.2	286.2
17°	570.3	599.6	661.0	644.1	456.9	350.7	308.2	286.2	279.6
18°	547.2	580.3	645.5	643.0	451.3	342.7	298.6	278.9	272.7
19°	528.9	555.8	629.9	640.6	443.8	335.1	291.4	273.8	266.5
20°	502.4	533.4	612.7	639.6	436.9	328.2	284.5	266.5	260.3
21°	480.3	512.0	596.8	636.2	432.0	321.7	279.3	259.6	254.1
22.5°	451.3	479.3	570.3	629.6	421.3	310.7	267.9	253.1	245.5
23°	447.9	471.7	563.4	627.5	418.2	308.2	264.1	249.3	243.1
24°	426.2	451.3	547.2	621.0	410.3	300.7	257.9	244.8	237.6
25°	414.1	434.8	527.2	614.8	406.5	293.8	253.8	238.9	232.7
26°	397.2	421.0	509.3	605.8	398.2	287.6	247.2	233.8	227.9
27°	384.8	404.8	490.6	599.3	388.6	281.0	242.0	228.6	221.4
28°	372.7	392.0	472.7	588.6	381.7	273.8	238.3	224.1	217.2
29°	360.3	377.2	458.2	580.3	375.1	267.6	232.4	218.3	211.7
30°	350.0	365.5	440.0	569.3	366.2	260.3	227.2	214.1	208.3
32.5°	326.2	339.3	402.7	543.1	344.8	245.8	214.8	202.7	199.3
35°	306.2	314.8	368.6	513.7	324.8	230.3	204.8	193.1	191.4
37.5°	285.1	293.4	337.6	483.1	303.8	216.2	193.4	185.8	184.5
40°	262.0	273.1	311.0	452.7	282.7	202.4	183.4	177.6	177.9
42.5°	238.9	251.7	285.1	417.2	263.1	189.3	173.8	169.6	170.3
45°	213.1	229.3	262.0	384.8	241.4	176.9	164.1	162.1	162.1
47.5°	186.2	206.9	242.0	351.3	220.7	164.5	154.8	153.4	154.1
50°	163.1	181.7	219.6	318.9	201.0	153.1	145.2	144.8	145.5
52.5°	140.3	159.0	200.0	288.6	181.0	142.7	135.8	135.8	136.5
55°	122.4	136.9	180.3	256.9	162.1	130.7	125.2	126.2	127.6
57.5°	110.0	119.6	161.0	226.5	144.5	119.0	115.5	116.2	117.9
60°	96.2	103.8	142.1	198.6	128.3	107.6	105.9	107.2	109.0
62.5°	83.8	90.3	124.1	173.4	110.7	96.5	95.9	97.9	99.6
65°	73.8	78.3	105.5	147.9	96.5	85.5	85.2	88.3	90.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	63.4	66.9	89.3	123.8	82.4	74.5	74.5	77.9	79.6
70°	53.8	56.5	73.8	102.1	70.3	63.4	63.8	67.9	69.3
72.5°	43.8	46.2	60.0	82.1	56.9	53.1	54.1	57.6	59.0
75°	35.5	37.2	47.2	64.8	45.5	42.4	43.8	46.9	47.9
77.5°	27.2	28.6	34.8	47.6	34.8	33.1	34.5	37.2	37.2
80°	20.0	20.3	24.8	33.4	24.8	23.8	25.5	26.9	26.9
82.5°	13.1	13.8	16.2	21.4	16.6	16.2	16.9	17.9	17.9
85°	7.6	7.9	9.0	11.7	9.3	9.3	10.0	10.0	9.7
87.5°	3.1	3.4	3.8	4.5	4.1	4.5	4.5	3.8	4.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)