

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055171

Luminaire Tested: S122R3DR-S290D830-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055171  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122R3DR-S290D830-X4F0-XX-UDD-F-S  
Description: DEFINE 2, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

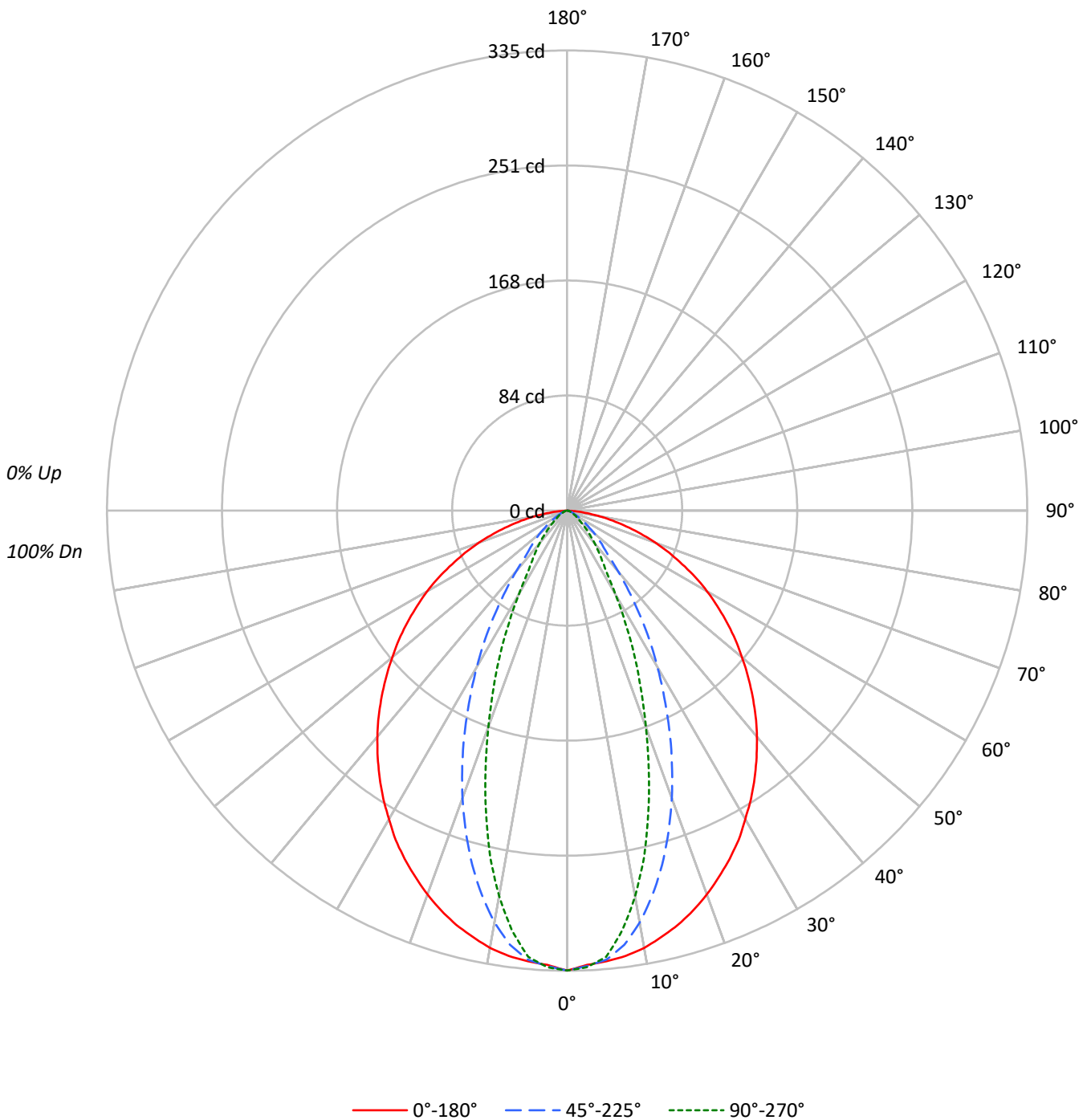
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 383.6 lumens  
Efficiency: N/A  
Efficacy: 30.4 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 0.64 / 0.81  
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 12.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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

TEST NUMBER: P1055171

CATALOG NUMBER: S122R3DR-S290D830-X4F0-XX-UDD-F-S

### Luminous Intensity Polar Plot





TEST NUMBER: P1055171

CATALOG NUMBER: S122R3DR-S290D830-X4F0-XX-UDD-F-S

**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	112	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	92	90				90
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80				80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	74	80	76	73	71				71
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64				64
5	85	75	67	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58				58
6	80	69	62	56	78	68	61	56	66	60	56	65	59	55	63	59	55	53				53
7	75	64	57	52	74	63	56	51	62	56	51	60	55	51	59	54	50	49				49
8	71	59	52	47	69	59	52	47	58	51	47	56	51	47	55	50	47	45				45
9	67	56	49	44	66	55	48	44	54	48	44	53	47	43	52	47	43	42				42
10	63	52	45	41	62	52	45	41	51	45	41	50	44	40	49	44	40	39				39

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

	0°	45°	90°
0°	6343	6343	6343
5°	6265	6242	6202
10°	6220	5856	5485
15°	6124	5239	4474
20°	5996	4492	3375
25°	5849	3679	2410
30°	5673	2872	1536
35°	5502	2107	1025
40°	5317	1420	772
45°	5112	999	549
50°	4899	760	386
55°	4687	528	284
60°	4460	356	235
65°	4138	256	184
70°	3772	205	161
75°	3272	183	117
80°	2597	131	131
85°	1435	174	87

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5112 cd/sqm

TEST NUMBER: P1055171

CATALOG NUMBER: S122R3DR-S290D830-X4F0-XX-UDD-F-S

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.6	8.0
10°-20°	75.1	19.6
20°-30°	85.8	22.4
30°-40°	72.8	19.0
40°-50°	54.3	14.2
50°-60°	35.1	9.1
60°-70°	19.6	5.1
70°-80°	8.6	2.2
80°-90°	1.8	0.5
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°	191.5	49.9
0°-40°	264.3	68.9
0°-60°	353.7	92.2
0°-90°	383.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	383.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	335	335	335	335	335	
5°	329	334	328	325	326	31
15°	312	304	267	239	228	88
25°	280	247	176	129	115	129
35°	238	179	91	50	44	149
45°	191	113	37	24	20	147
55°	142	54	16	10	9	127
65°	92	20	6	4	4	92
75°	45	4	2	2	2	48
85°	7	0	1	0	0	9
90°	0	0	0	0	0	



TEST NUMBER: P1055171

CATALOG NUMBER: S122R3DR-S290D830-X4F0-XX-UDD-F-S

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	334.8	334.8	334.8	334.8	334.8
2.5°	331.1	336.0	331.9	331.9	332.7
5°	329.4	333.5	328.2	324.9	326.1
7.5°	327.0	329.8	318.8	308.9	308.1
10°	323.3	324.5	304.4	289.2	285.1
12.5°	317.9	315.1	286.8	265.4	258.5
15°	312.2	304.4	267.1	238.8	228.1
17.5°	305.2	291.3	245.3	210.9	197.7
20°	297.4	277.7	222.8	181.7	167.4
22.5°	288.8	262.6	199.4	154.3	139.9
25°	279.8	247.0	176.0	128.8	115.3
27.5°	270.4	230.6	153.0	105.8	91.1
30°	259.3	213.7	131.3	83.7	70.2
32.5°	249.0	196.1	111.2	64.8	53.3
35°	237.9	179.3	91.1	49.6	44.3
37.5°	226.5	162.5	73.4	41.8	37.3
40°	215.0	145.6	57.4	35.3	31.2
42.5°	203.1	129.2	44.3	29.5	25.4
45°	190.8	113.2	37.3	24.2	20.5
47.5°	178.5	97.2	31.2	19.3	16.4
50°	166.2	82.0	25.8	15.2	13.1
52.5°	154.3	67.7	20.5	12.3	10.7
55°	141.9	53.7	16.0	9.8	8.6
57.5°	129.6	41.8	12.3	8.2	7.4
60°	117.7	31.6	9.4	6.6	6.2
62.5°	105.4	25.4	7.4	5.3	4.9
65°	92.3	19.7	5.7	4.5	4.1
67.5°	80.4	14.4	4.5	3.7	3.3
70°	68.1	9.8	3.7	3.3	2.9
72.5°	56.2	6.2	2.9	2.5	2.5
75°	44.7	4.1	2.5	2.1	1.6
77.5°	34.1	2.5	1.6	1.6	1.2
80°	23.8	1.6	1.2	1.2	1.2
82.5°	14.8	1.2	0.8	0.8	0.8
85°	6.6	0.4	0.8	0.4	0.4
87.5°	1.2	0.4	0.4	0.4	0.4
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P1055171

CATALOG NUMBER: S122R3DR-S290D830-X4F0-XX-UDD-F-S

**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	14.67	15.98	15.03	16.30	16.61	0.98	2.30	1.35	2.61	2.93
	3H	17.14	18.31	17.52	18.64	19.00	1.84	3.01	2.22	3.34	3.71
	4H	18.09	19.19	18.50	19.54	19.92	2.12	3.21	2.52	3.56	3.94
	6H	18.78	19.79	19.20	20.16	20.55	2.29	3.30	2.71	3.67	4.06
	8H	18.98	19.93	19.41	20.32	20.72	2.36	3.31	2.79	3.70	4.11
	12H	19.06	19.97	19.49	20.35	20.78	2.38	3.29	2.82	3.67	4.11
4H	2H	14.45	15.54	14.85	15.89	16.28	1.54	2.64	1.95	2.99	3.37
	3H	16.94	17.83	17.35	18.24	18.64	2.59	3.49	3.00	3.89	4.29
	4H	17.88	18.68	18.32	19.10	19.54	2.97	3.77	3.40	4.18	4.63
	6H	18.64	19.33	19.10	19.77	20.24	3.24	3.93	3.70	4.38	4.84
	8H	18.88	19.52	19.35	19.97	20.44	3.33	3.97	3.80	4.42	4.89
	12H	19.01	19.58	19.50	20.06	20.54	3.37	3.94	3.86	4.42	4.90
8H	4H	17.75	18.39	18.22	18.84	19.31	3.34	3.98	3.80	4.43	4.90
	6H	18.49	19.01	18.99	19.51	19.99	3.67	4.20	4.17	4.69	5.17
	8H	18.73	19.20	19.26	19.72	20.21	3.80	4.27	4.32	4.79	5.28
	12H	18.88	19.30	19.40	19.79	20.36	3.88	4.29	4.40	4.79	5.36
12H	4H	17.70	18.27	18.19	18.75	19.23	3.45	4.02	3.94	4.51	4.98
	6H	18.43	18.90	18.95	19.41	19.91	3.79	4.26	4.31	4.78	5.27
	8H	18.69	19.11	19.21	19.60	20.17	3.96	4.37	4.47	4.87	5.44