

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: P1055194

Luminaire Tested: S122R3DR-S290D950-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055194  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-2)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122R3DR-S290D950-X4F0-XX-UDD-F-B  
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: -

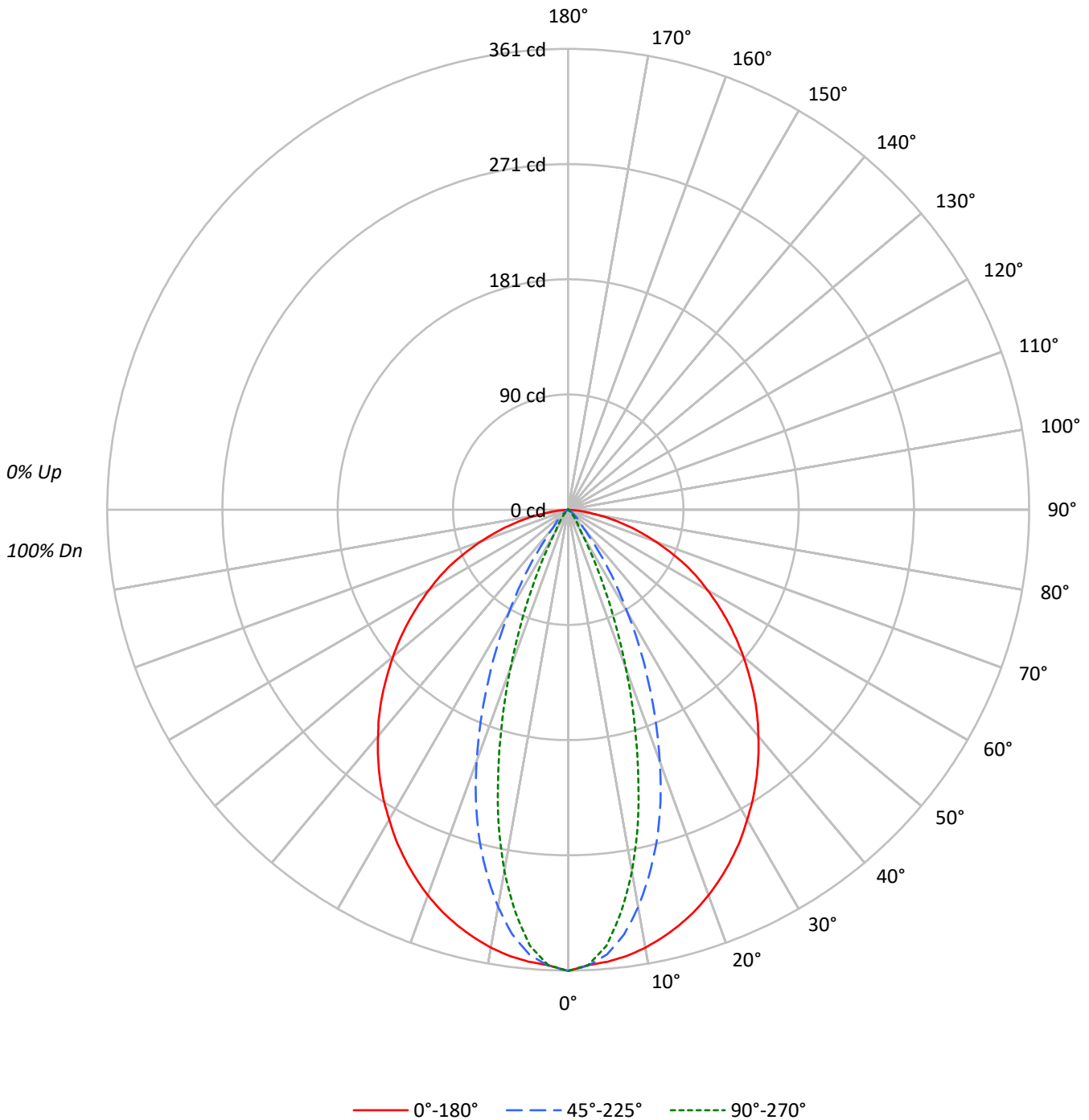
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 328.6 lumens  
Efficiency: N/A  
Efficacy: 26.1 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 0.56 / 0.7  
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

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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	112	109	106	103	110	106	104	101	102	100	98	99	97	95	95	94	92	91
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	83	81
3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	82	78	75	74
4	92	83	77	72	90	82	76	71	80	75	70	78	73	70	76	72	69	67
5	87	77	70	65	85	76	70	65	74	69	64	72	68	64	71	66	63	61
6	82	72	65	60	80	71	64	59	69	63	59	68	63	59	66	62	58	56
7	77	67	60	55	76	66	59	55	65	59	55	63	58	54	62	57	54	52
8	73	62	56	51	72	62	55	51	61	55	51	60	54	50	59	54	50	49
9	70	59	52	48	68	58	52	47	57	51	47	56	51	47	55	50	47	45
10	66	55	49	45	65	55	49	44	54	48	44	53	48	44	52	48	44	43

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

	0°	45°	90°
0°	6845	6845	6845
5°	6759	6649	6523
10°	6703	6079	5537
15°	6606	5261	4146
20°	6480	4228	2653
25°	6319	3098	1363
30°	6132	2026	444
35°	5944	1124	259
40°	5730	453	143
45°	5519	300	56
50°	5276	171	24
55°	5034	83	13
60°	4767	30	0
65°	4487	18	0
70°	4027	22	0
75°	3462	29	0
80°	2629	0	0
85°	1087	87	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5519 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	32.4	9.9
10°-20°	75.2	22.9
20°-30°	76.4	23.2
30°-40°	57.3	17.4
40°-50°	40.1	12.2
50°-60°	24.6	7.5
60°-70°	14.6	4.5
70°-80°	6.7	2.1
80°-90°	1.2	0.4
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°	184.0	56.0
0°-40°	241.4	73.4
0°-60°	306.1	93.1
0°-90°	328.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	328.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	361	361	361	361	361	
5°	355	359	350	343	343	34
15°	337	318	268	227	211	95
25°	302	249	148	85	65	139
35°	257	167	49	14	11	161
45°	206	88	11	3	2	159
55°	152	27	2	1	0	136
65°	100	8	0	0	0	99
75°	47	1	0	0	0	50
85°	5	0	0	0	0	8
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	361.3	361.3	361.3	361.3	361.3
2.5°	357.1	362.5	357.5	356.7	357.1
5°	355.4	358.8	349.6	343.0	343.0
7.5°	352.5	352.5	335.5	321.8	317.7
10°	348.4	343.8	316.0	294.0	287.8
12.5°	343.0	332.2	293.2	262.0	252.1
15°	336.8	318.5	268.2	227.1	211.4
17.5°	329.7	303.1	240.4	189.3	171.1
20°	321.4	286.5	209.7	150.7	131.6
22.5°	312.3	268.2	178.6	116.3	95.9
25°	302.3	249.1	148.2	84.7	65.2
27.5°	291.9	229.2	120.4	58.1	39.9
30°	280.3	208.5	92.6	34.5	20.3
32.5°	269.1	188.5	69.3	18.7	14.9
35°	257.0	167.3	48.6	14.5	11.2
37.5°	244.6	147.4	29.9	10.8	8.3
40°	231.7	127.1	18.3	7.9	5.8
42.5°	219.2	108.0	14.5	5.4	3.7
45°	206.0	88.4	11.2	3.3	2.1
47.5°	192.3	70.6	8.3	2.1	1.2
50°	179.0	54.8	5.8	1.2	0.8
52.5°	165.7	40.3	3.7	0.8	0.4
55°	152.4	27.0	2.5	0.8	0.4
57.5°	139.1	19.1	1.7	0.4	0.4
60°	125.8	14.9	0.8	0.4	0.0
62.5°	113.4	11.6	0.8	0.4	0.4
65°	100.1	7.9	0.4	0.4	0.0
67.5°	86.0	5.0	0.4	0.4	0.0
70°	72.7	2.9	0.4	0.4	0.0
72.5°	59.8	1.7	0.4	0.4	0.0
75°	47.3	0.8	0.4	0.4	0.0
77.5°	35.3	0.4	0.0	0.4	0.0
80°	24.1	0.0	0.0	0.4	0.0
82.5°	14.1	0.0	0.0	0.4	0.0
85°	5.0	0.0	0.4	0.4	0.0
87.5°	0.0	0.0	0.4	0.4	0.0
90°	0.0	0.0	0.0	0.0	0.0



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**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	12.89	14.15	13.26	14.47	14.78	0.00	0.00	0.00	0.00	0.00
	3H	16.64	17.76	17.02	18.09	18.45	0.00	0.00	0.00	0.00	0.00
	4H	17.95	18.99	18.35	19.34	19.72	0.00	0.00	0.00	0.00	0.00
	6H	18.80	19.76	19.22	20.13	20.52	0.00	0.00	0.00	0.00	0.00
	8H	19.02	19.92	19.45	20.31	20.72	0.00	0.00	0.00	0.00	0.00
	12H	19.08	19.94	19.51	20.33	20.76	0.00	0.00	0.00	0.00	0.00
4H	2H	12.65	13.69	13.05	14.04	14.42	0.00	0.00	0.00	0.00	0.00
	3H	16.39	17.24	16.81	17.65	18.05	0.00	0.00	0.00	0.00	0.00
	4H	17.69	18.45	18.12	18.87	19.31	0.00	0.00	0.00	0.00	0.00
	6H	18.60	19.26	19.07	19.71	20.18	0.00	0.00	0.00	0.00	0.00
	8H	18.86	19.48	19.33	19.92	20.39	0.00	0.00	0.00	0.00	0.00
	12H	18.96	19.50	19.45	19.99	20.46	0.00	0.00	0.00	0.00	0.00
8H	4H	17.54	18.15	18.01	18.60	19.07	0.00	0.00	0.00	0.00	0.00
	6H	18.44	18.94	18.95	19.44	19.92	0.00	0.00	0.00	0.00	0.00
	8H	18.70	19.14	19.22	19.66	20.15	0.00	0.00	0.00	0.00	0.00
	12H	18.82	19.21	19.33	19.70	20.28	0.00	0.00	0.00	0.00	0.00
12H	4H	17.49	18.03	17.98	18.51	18.99	0.00	0.00	0.00	0.00	0.00
	6H	18.38	18.82	18.90	19.34	19.83	0.00	0.00	0.00	0.00	0.00
	8H	18.66	19.04	19.17	19.54	20.11	0.00	0.00	0.00	0.00	0.00