

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: P1055191

Luminaire Tested: S122R3DR-S290D940-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055191  
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-S290D940-X4F0-XX-UDD-F-B  
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

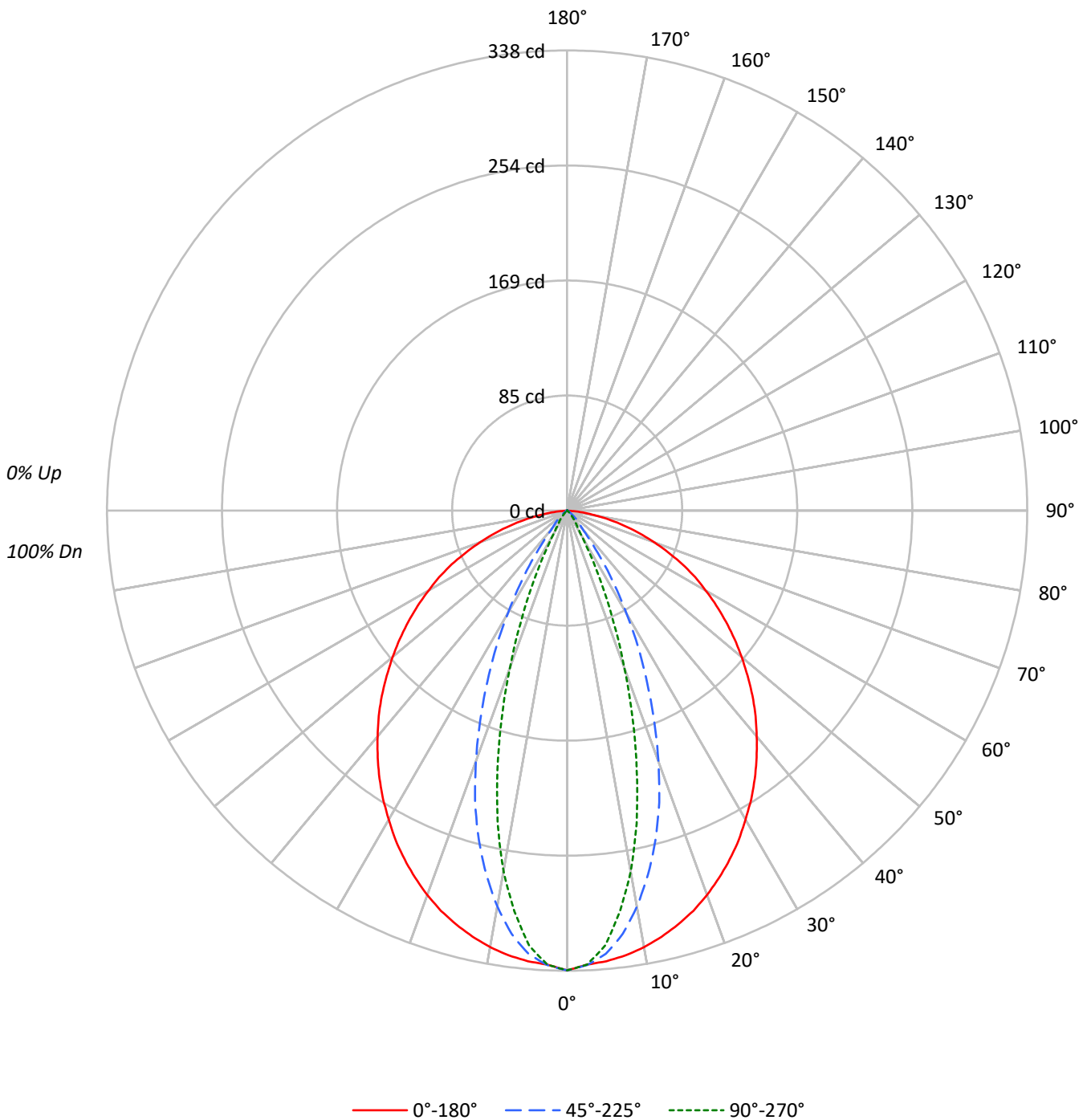
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 307.2 lumens  
Efficiency: N/A  
Efficacy: 24.4 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 (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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	112	109	106	103	110	106	104	101	102	100	98	99	97	95	95	94	92
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	83
3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	82	78	75
4	92	83	77	72	90	82	76	71	80	75	70	78	73	70	76	72	69
5	87	77	70	65	85	76	70	65	74	69	64	72	68	64	71	66	63
6	82	72	65	60	80	71	64	59	69	63	59	68	62	59	66	62	58
7	77	67	60	55	76	66	59	55	65	59	55	63	58	54	62	57	54
8	73	62	56	51	72	62	55	51	61	55	51	60	54	50	59	54	50
9	70	59	52	48	68	58	52	47	57	51	47	56	51	47	55	50	47
10	66	55	49	45	65	55	49	44	54	48	44	53	48	44	52	47	44

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

	0°	45°	90°
0°	6398	6398	6398
5°	6318	6215	6097
10°	6264	5683	5175
15°	6175	4917	3876
20°	6057	3952	2480
25°	5908	2897	1273
30°	5732	1895	416
35°	5558	1050	243
40°	5357	423	134
45°	5158	281	51
50°	4931	159	24
55°	4704	76	13
60°	4456	30	0
65°	4192	18	0
70°	3761	22	0
75°	3235	29	0
80°	2455	0	0
85°	1022	87	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5158 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.3	9.9
10°-20°	70.3	22.9
20°-30°	71.4	23.2
30°-40°	53.6	17.4
40°-50°	37.5	12.2
50°-60°	23.0	7.5
60°-70°	13.7	4.5
70°-80°	6.3	2.1
80°-90°	1.1	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°	172.0	56.0
0°-40°	225.6	73.4
0°-60°	286.1	93.1
0°-90°	307.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	307.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	338	338	338	338	338	
5°	332	335	327	321	321	32
15°	315	298	251	212	198	89
25°	283	233	139	79	61	130
35°	240	156	45	14	10	150
45°	192	83	10	3	2	148
55°	142	25	2	1	0	127
65°	94	7	0	0	0	92
75°	44	1	0	0	0	47
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°	337.7	337.7	337.7	337.7	337.7
2.5°	333.8	338.8	334.2	333.4	333.8
5°	332.2	335.3	326.8	320.6	320.6
7.5°	329.5	329.5	313.6	300.8	296.9
10°	325.6	321.4	295.4	274.8	269.0
12.5°	320.6	310.5	274.0	244.9	235.6
15°	314.8	297.7	250.7	212.3	197.6
17.5°	308.2	283.3	224.7	177.0	159.9
20°	300.4	267.8	196.0	140.9	123.0
22.5°	291.9	250.7	166.9	108.7	89.7
25°	282.6	232.9	138.6	79.2	60.9
27.5°	272.9	214.2	112.6	54.3	37.3
30°	262.0	194.8	86.6	32.2	19.0
32.5°	251.5	176.2	64.8	17.5	14.0
35°	240.3	156.4	45.4	13.6	10.5
37.5°	228.6	137.8	27.9	10.1	7.8
40°	216.6	118.8	17.1	7.4	5.4
42.5°	204.9	100.9	13.6	5.0	3.5
45°	192.5	82.7	10.5	3.1	1.9
47.5°	179.7	66.0	7.8	1.9	1.2
50°	167.3	51.2	5.4	1.2	0.8
52.5°	154.9	37.6	3.5	0.8	0.4
55°	142.4	25.2	2.3	0.8	0.4
57.5°	130.0	17.9	1.6	0.4	0.4
60°	117.6	14.0	0.8	0.4	0.0
62.5°	106.0	10.9	0.8	0.4	0.4
65°	93.5	7.4	0.4	0.4	0.0
67.5°	80.3	4.7	0.4	0.4	0.0
70°	67.9	2.7	0.4	0.4	0.0
72.5°	55.9	1.6	0.4	0.4	0.0
75°	44.2	0.8	0.4	0.4	0.0
77.5°	33.0	0.4	0.0	0.4	0.0
80°	22.5	0.0	0.0	0.4	0.0
82.5°	13.2	0.0	0.0	0.4	0.0
85°	4.7	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	12.66	13.92	13.03	14.24	14.55	0.00	0.00	0.00	0.00	0.00
	3H	16.40	17.52	16.78	17.85	18.21	0.00	0.00	0.00	0.00	0.00
	4H	17.71	18.75	18.11	19.10	19.49	0.00	0.00	0.00	0.00	0.00
	6H	18.57	19.52	18.98	19.89	20.29	0.00	0.00	0.00	0.00	0.00
	8H	18.78	19.68	19.21	20.07	20.48	0.00	0.00	0.00	0.00	0.00
	12H	18.84	19.71	19.28	20.09	20.52	0.00	0.00	0.00	0.00	0.00
4H	2H	12.42	13.46	12.82	13.81	14.20	0.00	0.00	0.00	0.00	0.00
	3H	16.16	17.01	16.57	17.41	17.82	0.00	0.00	0.00	0.00	0.00
	4H	17.45	18.21	17.89	18.63	19.08	0.00	0.00	0.00	0.00	0.00
	6H	18.37	19.03	18.83	19.47	19.94	0.00	0.00	0.00	0.00	0.00
	8H	18.63	19.24	19.10	19.69	20.16	0.00	0.00	0.00	0.00	0.00
	12H	18.73	19.27	19.22	19.75	20.23	0.00	0.00	0.00	0.00	0.00
8H	4H	17.31	17.92	17.78	18.37	18.84	0.00	0.00	0.00	0.00	0.00
	6H	18.21	18.70	18.71	19.20	19.68	0.00	0.00	0.00	0.00	0.00
	8H	18.46	18.91	18.99	19.42	19.92	0.00	0.00	0.00	0.00	0.00
	12H	18.58	18.97	19.10	19.47	20.04	0.00	0.00	0.00	0.00	0.00
12H	4H	17.26	17.79	17.74	18.28	18.75	0.00	0.00	0.00	0.00	0.00
	6H	18.14	18.59	18.67	19.10	19.60	0.00	0.00	0.00	0.00	0.00
	8H	18.42	18.81	18.94	19.30	19.88	0.00	0.00	0.00	0.00	0.00