

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: P1055305

Luminaire Tested: S122R3DR-H290D830-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055305  
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-H290D830-X4F0-XX-UDD-F-B  
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

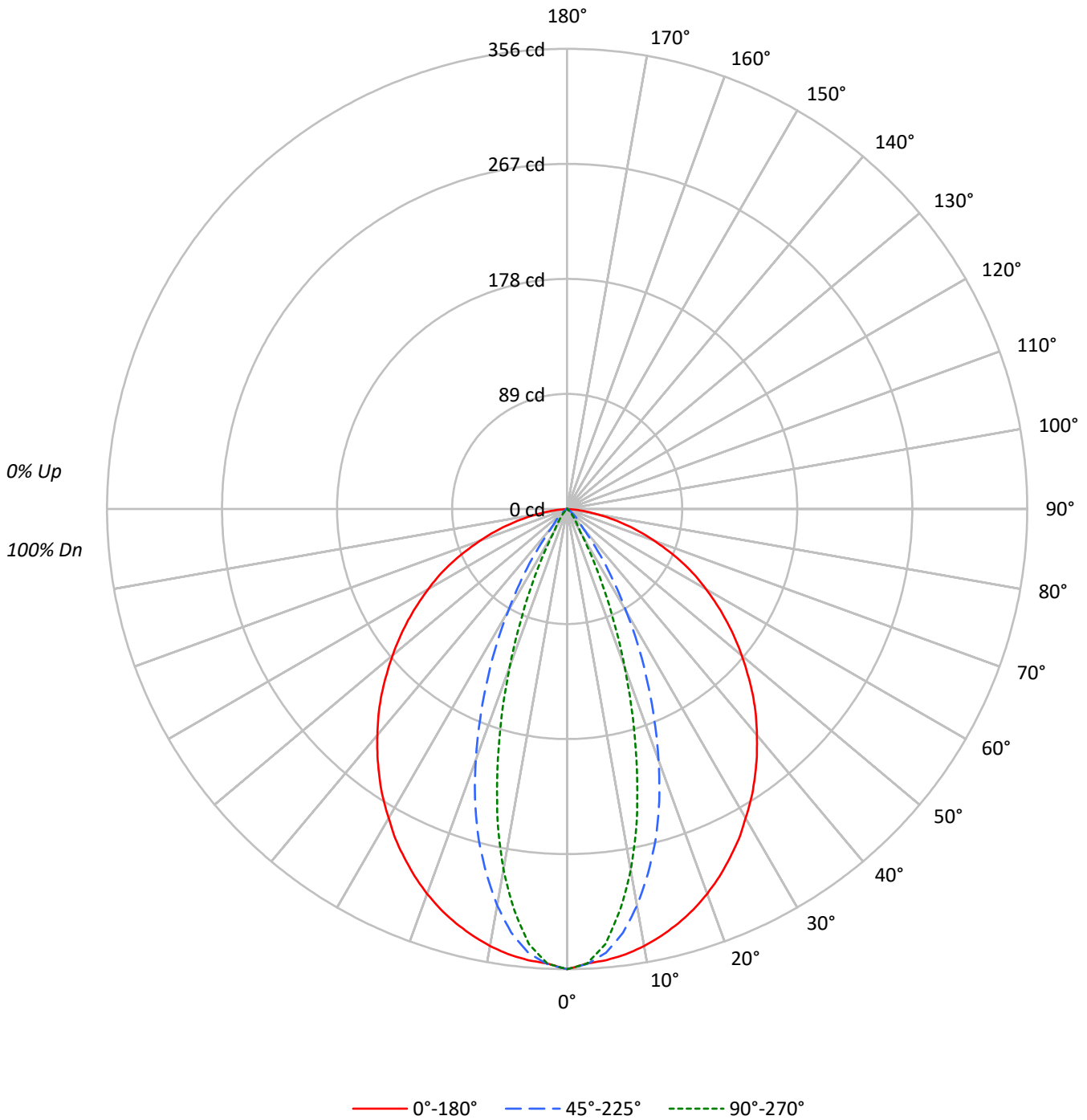
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 323.9 lumens  
Efficiency: N/A  
Efficacy: 27.7 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): 11.7  
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
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	63	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	48	44

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

	0°	45°	90°
0°	6745	6745	6745
5°	6662	6554	6428
10°	6606	5991	5456
15°	6510	5186	4086
20°	6387	4167	2615
25°	6227	3054	1344
30°	6042	1997	440
35°	5858	1108	254
40°	5649	445	141
45°	5439	295	54
50°	5199	168	24
55°	4961	83	13
60°	4699	30	0
65°	4420	18	0
70°	3966	22	0
75°	3418	29	0
80°	2586	0	0
85°	1065	87	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5439 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.9	9.9
10°-20°	74.2	22.9
20°-30°	75.3	23.2
30°-40°	56.5	17.4
40°-50°	39.6	12.2
50°-60°	24.2	7.5
60°-70°	14.4	4.5
70°-80°	6.6	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°	181.4	56.0
0°-40°	237.9	73.4
0°-60°	301.6	93.1
0°-90°	323.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	323.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	356	356	356	356	356	
5°	350	354	345	338	338	33
15°	332	314	264	224	208	94
25°	298	246	146	84	64	137
35°	253	165	48	14	11	158
45°	203	87	11	3	2	156
55°	150	27	2	1	0	134
65°	99	8	0	0	0	97
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°	356.0	356.0	356.0	356.0	356.0
2.5°	352.0	357.3	352.4	351.5	352.0
5°	350.3	353.6	344.6	338.0	338.0
7.5°	347.5	347.5	330.7	317.2	313.1
10°	343.4	338.9	311.4	289.7	283.6
12.5°	338.0	327.4	288.9	258.2	248.4
15°	331.9	313.9	264.4	223.9	208.3
17.5°	324.9	298.8	237.0	186.6	168.6
20°	316.8	282.4	206.7	148.6	129.7
22.5°	307.8	264.4	176.0	114.6	94.5
25°	297.9	245.5	146.1	83.5	64.3
27.5°	287.7	225.9	118.7	57.3	39.3
30°	276.2	205.4	91.3	34.0	20.1
32.5°	265.2	185.8	68.3	18.4	14.7
35°	253.3	164.9	47.9	14.3	11.0
37.5°	241.0	145.3	29.5	10.6	8.2
40°	228.4	125.2	18.0	7.8	5.7
42.5°	216.1	106.4	14.3	5.3	3.7
45°	203.0	87.2	11.0	3.3	2.0
47.5°	189.5	69.6	8.2	2.0	1.2
50°	176.4	54.0	5.7	1.2	0.8
52.5°	163.3	39.7	3.7	0.8	0.4
55°	150.2	26.6	2.5	0.8	0.4
57.5°	137.1	18.8	1.6	0.4	0.4
60°	124.0	14.7	0.8	0.4	0.0
62.5°	111.7	11.5	0.8	0.4	0.4
65°	98.6	7.8	0.4	0.4	0.0
67.5°	84.7	4.9	0.4	0.4	0.0
70°	71.6	2.9	0.4	0.4	0.0
72.5°	58.9	1.6	0.4	0.4	0.0
75°	46.7	0.8	0.4	0.4	0.0
77.5°	34.8	0.4	0.0	0.4	0.0
80°	23.7	0.0	0.0	0.4	0.0
82.5°	13.9	0.0	0.0	0.4	0.0
85°	4.9	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	12.84	14.10	13.21	14.41	14.73	0.00	0.00	0.00	0.00	0.00
	3H	16.58	17.70	16.96	18.03	18.40	0.00	0.00	0.00	0.00	0.00
	4H	17.90	18.94	18.30	19.29	19.67	0.00	0.00	0.00	0.00	0.00
	6H	18.75	19.71	19.17	20.08	20.47	0.00	0.00	0.00	0.00	0.00
	8H	18.96	19.87	19.39	20.26	20.66	0.00	0.00	0.00	0.00	0.00
	12H	19.03	19.89	19.46	20.27	20.70	0.00	0.00	0.00	0.00	0.00
4H	2H	12.59	13.63	13.00	13.99	14.37	0.00	0.00	0.00	0.00	0.00
	3H	16.34	17.19	16.75	17.60	18.00	0.00	0.00	0.00	0.00	0.00
	4H	17.63	18.40	18.07	18.82	19.26	0.00	0.00	0.00	0.00	0.00
	6H	18.55	19.21	19.02	19.66	20.12	0.00	0.00	0.00	0.00	0.00
	8H	18.81	19.42	19.28	19.87	20.34	0.00	0.00	0.00	0.00	0.00
	12H	18.91	19.45	19.40	19.93	20.41	0.00	0.00	0.00	0.00	0.00
8H	4H	17.49	18.10	17.96	18.55	19.02	0.00	0.00	0.00	0.00	0.00
	6H	18.39	18.89	18.89	19.38	19.87	0.00	0.00	0.00	0.00	0.00
	8H	18.65	19.09	19.17	19.61	20.10	0.00	0.00	0.00	0.00	0.00
	12H	18.76	19.15	19.28	19.65	20.22	0.00	0.00	0.00	0.00	0.00
12H	4H	17.44	17.98	17.93	18.46	18.94	0.00	0.00	0.00	0.00	0.00
	6H	18.33	18.77	18.85	19.29	19.78	0.00	0.00	0.00	0.00	0.00
	8H	18.60	18.99	19.12	19.49	20.06	0.00	0.00	0.00	0.00	0.00