

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: P1055309

Luminaire Tested: S122R3DR-H290D835-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055309  
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-H290D835-X4F0-XX-UDD-F-S  
Description: DEFINE 2, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

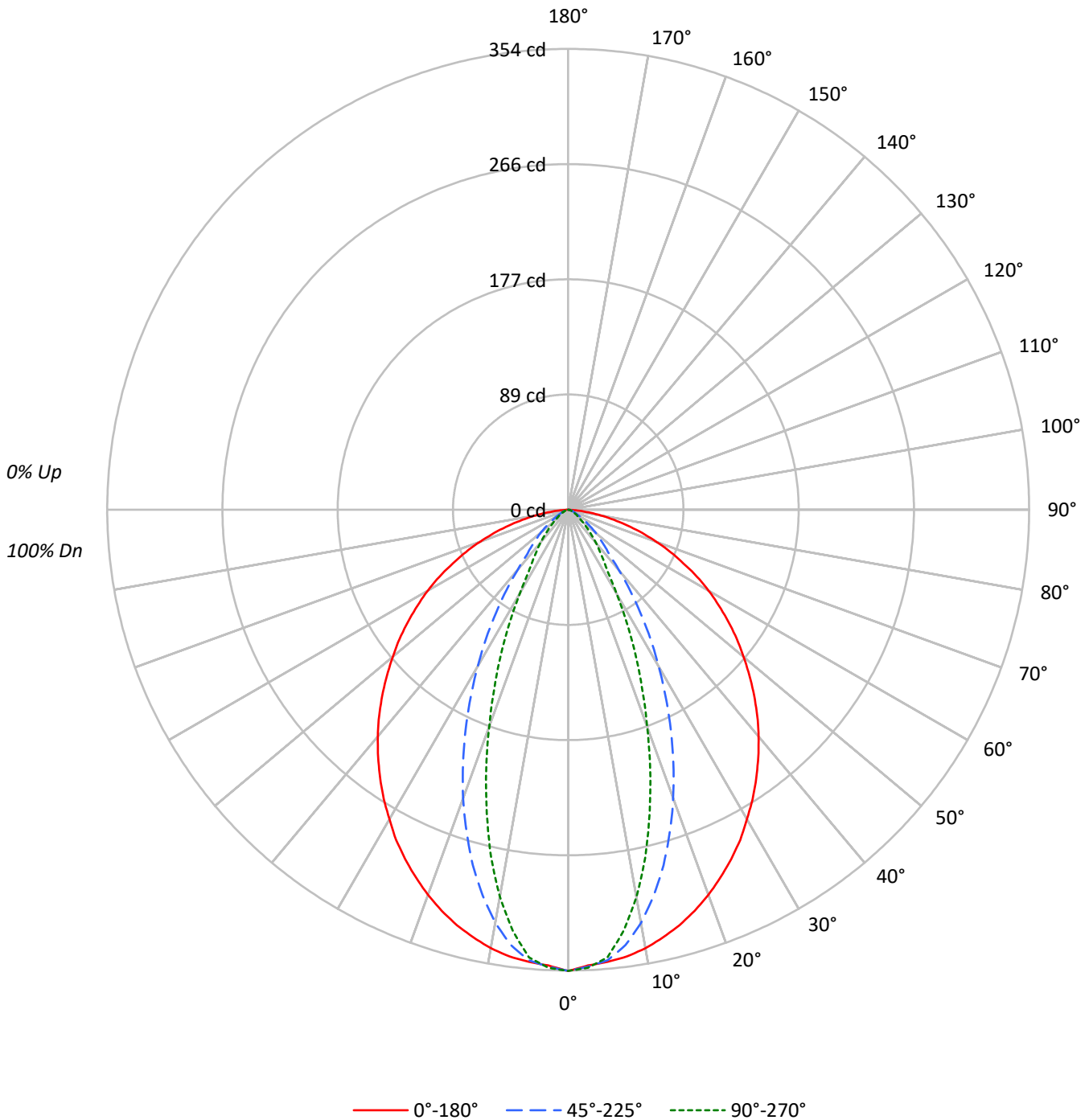
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 406.0 lumens  
Efficiency: N/A  
Efficacy: 34.7 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): 11.7  
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	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°	6713	6713	6713
5°	6632	6607	6565
10°	6581	6199	5806
15°	6481	5545	4735
20°	6347	4754	3573
25°	6190	3894	2550
30°	6003	3039	1623
35°	5824	2230	1085
40°	5627	1504	816
45°	5410	1058	581
50°	5182	808	410
55°	4961	558	301
60°	4721	379	246
65°	4380	273	193
70°	3994	216	166
75°	3462	190	124
80°	2749	142	142
85°	1500	196	87

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5410 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	32.4	8.0
10°-20°	79.5	19.6
20°-30°	90.8	22.4
30°-40°	77.0	19.0
40°-50°	57.5	14.2
50°-60°	37.1	9.1
60°-70°	20.7	5.1
70°-80°	9.1	2.2
80°-90°	1.9	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°	202.7	49.9
0°-40°	279.7	68.9
0°-60°	374.3	92.2
0°-90°	406.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	406.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	354	354	354	354	354	
5°	349	353	347	344	345	33
15°	330	322	283	253	241	93
25°	296	261	186	136	122	136
35°	252	190	96	52	47	157
45°	202	120	40	26	22	156
55°	150	57	17	10	9	134
65°	98	21	6	5	4	97
75°	47	4	3	2	2	50
85°	7	0	1	0	0	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	354.3	354.3	354.3	354.3	354.3
2.5°	350.4	355.6	351.3	351.3	352.1
5°	348.7	353.0	347.4	343.9	345.2
7.5°	346.1	349.1	337.4	326.9	326.1
10°	342.1	343.4	322.2	306.1	301.8
12.5°	336.5	333.5	303.5	280.9	273.5
15°	330.4	322.2	282.7	252.7	241.4
17.5°	323.0	308.3	259.6	223.2	209.3
20°	314.8	293.9	235.8	192.3	177.2
22.5°	305.7	277.9	211.0	163.3	148.1
25°	296.1	261.4	186.3	136.3	122.0
27.5°	286.1	244.0	162.0	112.0	96.4
30°	274.4	226.2	138.9	88.6	74.2
32.5°	263.6	207.5	117.7	68.6	56.4
35°	251.8	189.7	96.4	52.5	46.9
37.5°	239.7	171.9	77.7	44.3	39.5
40°	227.5	154.1	60.8	37.3	33.0
42.5°	214.9	136.8	46.9	31.3	26.9
45°	201.9	119.8	39.5	25.6	21.7
47.5°	188.9	102.9	33.0	20.4	17.4
50°	175.8	86.8	27.4	16.1	13.9
52.5°	163.3	71.6	21.7	13.0	11.3
55°	150.2	56.9	16.9	10.4	9.1
57.5°	137.2	44.3	13.0	8.7	7.8
60°	124.6	33.4	10.0	6.9	6.5
62.5°	111.6	26.9	7.8	5.6	5.2
65°	97.7	20.8	6.1	4.8	4.3
67.5°	85.1	15.2	4.8	3.9	3.5
70°	72.1	10.4	3.9	3.5	3.0
72.5°	59.5	6.5	3.0	2.6	2.6
75°	47.3	4.3	2.6	2.2	1.7
77.5°	36.0	2.6	1.7	1.7	1.3
80°	25.2	1.7	1.3	1.3	1.3
82.5°	15.6	1.3	0.9	0.9	0.9
85°	6.9	0.4	0.9	0.4	0.4
87.5°	1.3	0.4	0.4	0.4	0.4
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	14.87	16.19	15.23	16.50	16.82	1.18	2.50	1.55	2.81	3.13
	3H	17.34	18.51	17.72	18.84	19.20	2.03	3.20	2.41	3.53	3.90
	4H	18.29	19.38	18.69	19.73	20.12	2.30	3.40	2.71	3.75	4.13
	6H	18.98	19.98	19.39	20.35	20.75	2.49	3.49	2.91	3.87	4.26
	8H	19.17	20.12	19.60	20.51	20.92	2.57	3.52	3.00	3.91	4.32
	12H	19.25	20.16	19.69	20.55	20.98	2.59	3.50	3.03	3.89	4.32
4H	2H	14.65	15.74	15.06	16.10	16.48	1.76	2.85	2.16	3.20	3.58
	3H	17.14	18.03	17.55	18.44	18.84	2.79	3.68	3.20	4.09	4.49
	4H	18.08	18.88	18.51	19.30	19.74	3.16	3.96	3.59	4.38	4.82
	6H	18.83	19.52	19.30	19.97	20.44	3.44	4.13	3.90	4.58	5.05
	8H	19.08	19.72	19.54	20.17	20.64	3.55	4.19	4.02	4.64	5.11
	12H	19.20	19.77	19.69	20.25	20.73	3.59	4.16	4.08	4.64	5.12
8H	4H	17.95	18.59	18.42	19.04	19.51	3.52	4.16	3.99	4.61	5.08
	6H	18.68	19.21	19.19	19.70	20.19	3.88	4.40	4.38	4.90	5.38
	8H	18.93	19.40	19.45	19.91	20.41	4.02	4.50	4.55	5.01	5.50
	12H	19.08	19.49	19.59	19.98	20.56	4.10	4.52	4.62	5.01	5.58
12H	4H	17.90	18.47	18.39	18.95	19.43	3.64	4.21	4.13	4.69	5.17
	6H	18.62	19.09	19.15	19.61	20.10	4.00	4.47	4.52	4.98	5.47
	8H	18.89	19.30	19.40	19.80	20.37	4.19	4.60	4.70	5.10	5.67