

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: P1055320

Luminaire Tested: S122R3DR-H290D930-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055320
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-H290D930-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, 90 CRI LEDS
Ballast/Driver: -

Summary

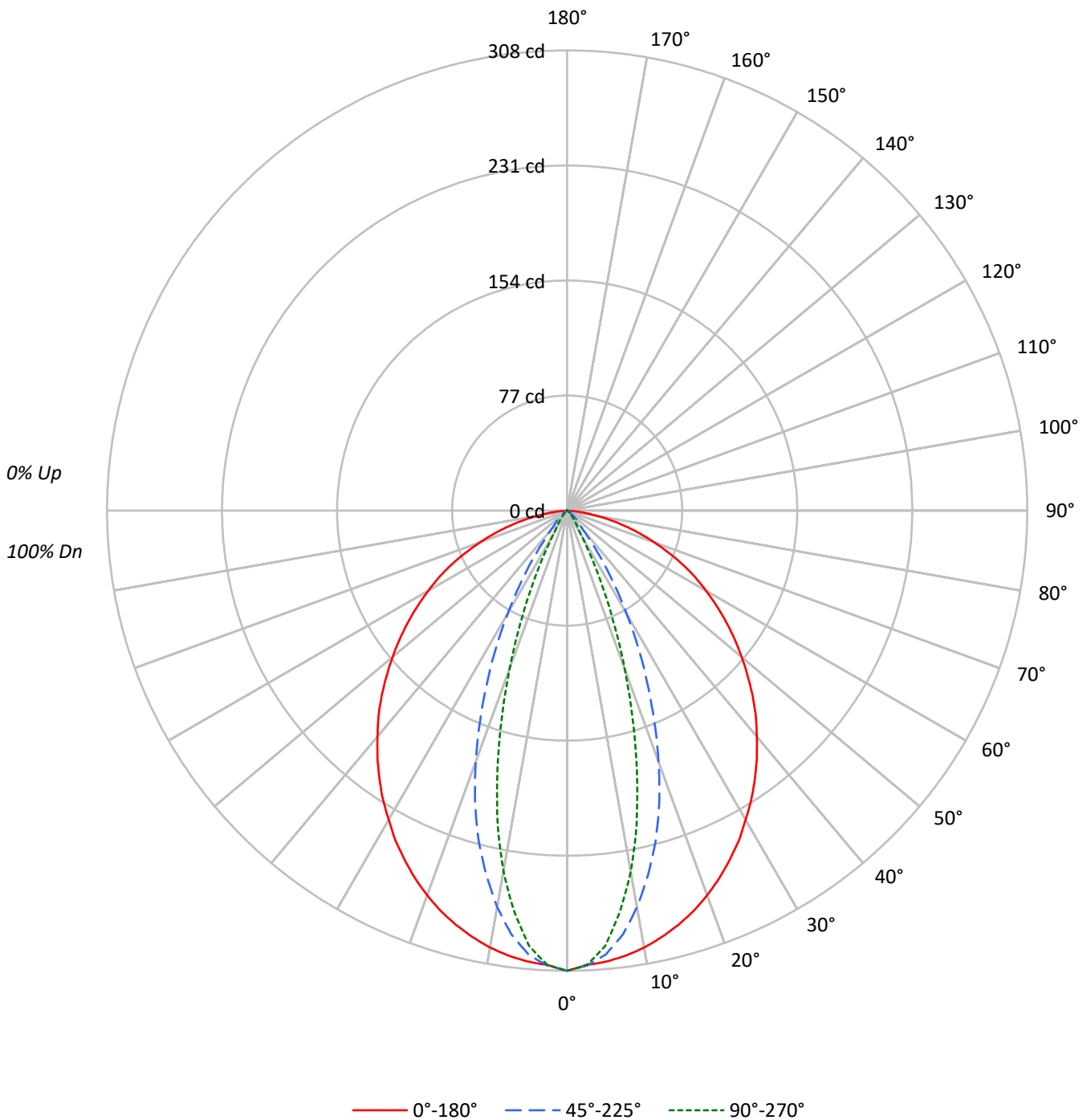
Lumens per Lamp: N/A
Luminaire Lumens: 280.3 lumens
Efficiency: N/A
Efficacy: 24.0 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.56 / 0.7
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
Input Voltage (V): 120
Input Current (A_{in}): 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	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	109	106	103	110	106	104	101	102	100	98	99	97	95	95	94	92	90					90			
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	85	83	81					81			
3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	82	78	75	74					74			
4	92	83	77	72	90	82	76	71	80	75	70	78	73	70	76	72	69	67					67			
5	87	77	70	65	85	76	70	65	74	69	64	72	67	64	71	66	63	61					61			
6	82	72	65	60	80	71	64	59	69	63	59	68	62	59	66	62	58	56					56			
7	77	67	60	55	76	66	59	55	65	59	55	63	58	54	62	57	54	52					52			
8	73	62	56	51	72	62	55	51	61	55	51	60	54	50	59	54	50	49					49			
9	69	59	52	48	68	58	52	47	57	51	47	56	51	47	55	50	47	45					45			
10	66	55	49	45	65	55	49	44	54	48	44	53	48	44	52	47	44	43					43			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5835	5835	5835
5°	5763	5669	5561
10°	5714	5183	4719
15°	5631	4486	3534
20°	5524	3605	2262
25°	5387	2642	1162
30°	5226	1726	378
35°	5067	958	222
40°	4885	386	124
45°	4705	257	48
50°	4498	147	21
55°	4291	69	13
60°	4066	27	0
65°	3824	18	0
70°	3429	22	0
75°	2957	29	0
80°	2237	0	0
85°	913	87	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4705 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	27.6	9.9
10°-20°	64.1	22.9
20°-30°	65.1	23.2
30°-40°	48.9	17.4
40°-50°	34.2	12.2
50°-60°	20.9	7.5
60°-70°	12.5	4.5
70°-80°	5.8	2.1
80°-90°	1.0	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°	156.9	56.0
0°-40°	205.8	73.4
0°-60°	260.9	93.1
0°-90°	280.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	280.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	308	308	308	308	308	
5°	303	306	298	292	292	29
15°	287	272	229	194	180	81
25°	258	212	126	72	56	119
35°	219	143	41	12	10	137
45°	176	75	10	3	2	135
55°	130	23	2	1	0	116
65°	85	7	0	0	0	84
75°	40	1	0	0	0	43
85°	4	0	0	0	0	7
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	308.0	308.0	308.0	308.0	308.0
2.5°	304.4	309.0	304.8	304.1	304.4
5°	303.0	305.9	298.1	292.4	292.4
7.5°	300.5	300.5	286.0	274.3	270.8
10°	297.0	293.1	269.4	250.6	245.3
12.5°	292.4	283.2	249.9	223.4	214.9
15°	287.1	271.5	228.7	193.6	180.2
17.5°	281.1	258.4	205.0	161.4	145.8
20°	274.0	244.3	178.8	128.5	112.2
22.5°	266.2	228.7	152.2	99.1	81.8
25°	257.7	212.4	126.4	72.2	55.6
27.5°	248.9	195.4	102.7	49.6	34.0
30°	238.9	177.7	78.9	29.4	17.3
32.5°	229.4	160.7	59.1	15.9	12.7
35°	219.1	142.7	41.4	12.4	9.6
37.5°	208.5	125.7	25.5	9.2	7.1
40°	197.5	108.3	15.6	6.7	5.0
42.5°	186.9	92.0	12.4	4.6	3.2
45°	175.6	75.4	9.6	2.8	1.8
47.5°	163.9	60.2	7.1	1.8	1.1
50°	152.6	46.7	5.0	1.1	0.7
52.5°	141.2	34.3	3.2	0.7	0.4
55°	129.9	23.0	2.1	0.7	0.4
57.5°	118.6	16.3	1.4	0.4	0.4
60°	107.3	12.7	0.7	0.4	0.0
62.5°	96.6	9.9	0.7	0.4	0.4
65°	85.3	6.7	0.4	0.4	0.0
67.5°	73.3	4.2	0.4	0.4	0.0
70°	61.9	2.5	0.4	0.4	0.0
72.5°	51.0	1.4	0.4	0.4	0.0
75°	40.4	0.7	0.4	0.4	0.0
77.5°	30.1	0.4	0.0	0.4	0.0
80°	20.5	0.0	0.0	0.4	0.0
82.5°	12.0	0.0	0.0	0.4	0.0
85°	4.2	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	12.34	13.60	12.71	13.91	14.23	0.00	0.00	0.00	0.00	0.00
	3H	16.08	17.20	16.46	17.53	17.89	0.00	0.00	0.00	0.00	0.00
	4H	17.39	18.43	17.80	18.78	19.17	0.00	0.00	0.00	0.00	0.00
	6H	18.25	19.20	18.66	19.57	19.97	0.00	0.00	0.00	0.00	0.00
	8H	18.46	19.36	18.89	19.75	20.16	0.00	0.00	0.00	0.00	0.00
	12H	18.52	19.39	18.95	19.77	20.20	0.00	0.00	0.00	0.00	0.00
4H	2H	12.09	13.14	12.50	13.49	13.87	0.00	0.00	0.00	0.00	0.00
	3H	15.83	16.69	16.25	17.09	17.49	0.00	0.00	0.00	0.00	0.00
	4H	17.13	17.89	17.57	18.31	18.76	0.00	0.00	0.00	0.00	0.00
	6H	18.05	18.71	18.51	19.15	19.62	0.00	0.00	0.00	0.00	0.00
	8H	18.31	18.92	18.78	19.37	19.84	0.00	0.00	0.00	0.00	0.00
	12H	18.41	18.95	18.89	19.43	19.90	0.00	0.00	0.00	0.00	0.00
8H	4H	16.99	17.60	17.46	18.05	18.52	0.00	0.00	0.00	0.00	0.00
	6H	17.89	18.38	18.39	18.88	19.36	0.00	0.00	0.00	0.00	0.00
	8H	18.14	18.59	18.67	19.10	19.60	0.00	0.00	0.00	0.00	0.00
	12H	18.26	18.65	18.78	19.14	19.72	0.00	0.00	0.00	0.00	0.00
12H	4H	16.94	17.48	17.42	17.96	18.43	0.00	0.00	0.00	0.00	0.00
	6H	17.82	18.27	18.35	18.78	19.28	0.00	0.00	0.00	0.00	0.00
	8H	18.10	18.49	18.62	18.98	19.56	0.00	0.00	0.00	0.00	0.00