

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: P1055327

Luminaire Tested: S122R3DR-H290D940-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055327
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-H290D940-X4F0-XX-UDD-F-S
Description: DEFINE 2, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

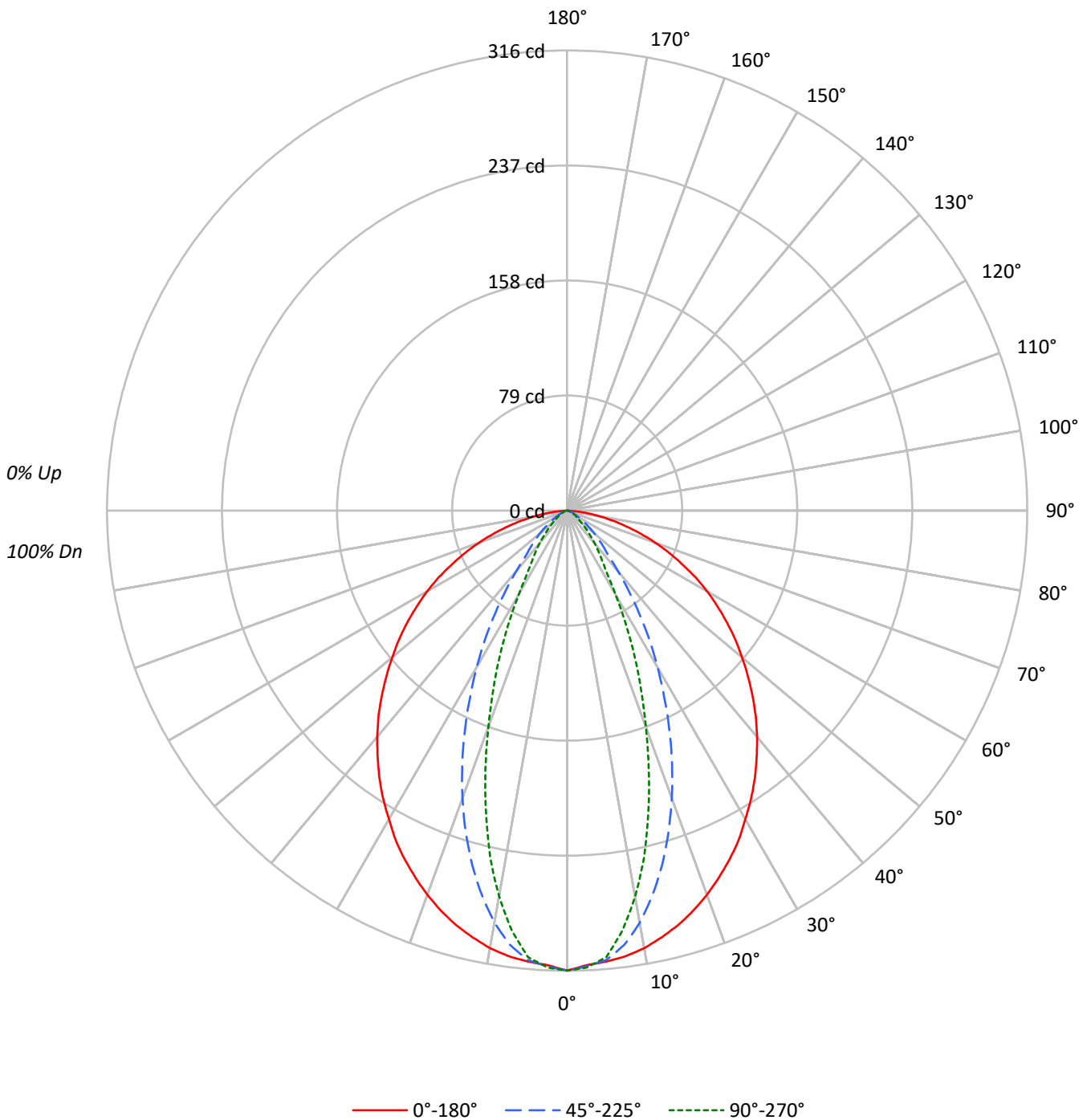
Lumens per Lamp: N/A
Luminaire Lumens: 362.1 lumens
Efficiency: N/A
Efficacy: 30.9 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.64 / 0.81
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	92	90
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	74	80	76	73	71
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64
5	85	75	67	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58
6	80	69	62	56	78	68	61	56	66	60	56	65	59	55	63	59	55	53
7	75	64	57	52	74	63	56	51	62	56	51	60	55	51	59	54	50	49
8	71	59	52	47	69	59	52	47	58	51	47	56	51	47	55	50	47	45
9	67	56	49	44	66	55	48	44	54	48	44	53	47	43	52	47	43	42
10	63	52	45	41	62	52	45	41	51	45	41	50	44	40	49	44	40	39

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5985	5985	5985
5°	5913	5890	5854
10°	5870	5527	5177
15°	5778	4943	4223
20°	5659	4238	3186
25°	5521	3472	2274
30°	5353	2711	1448
35°	5195	1989	967
40°	5018	1340	727
45°	4823	943	520
50°	4622	719	365
55°	4426	499	268
60°	4210	337	220
65°	3905	242	175
70°	3562	194	150
75°	3089	168	110
80°	2455	131	131
85°	1348	174	87

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4823 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	28.9	8.0
10°-20°	70.9	19.6
20°-30°	81.0	22.4
30°-40°	68.7	19.0
40°-50°	51.2	14.2
50°-60°	33.1	9.1
60°-70°	18.5	5.1
70°-80°	8.1	2.2
80°-90°	1.7	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°	180.8	49.9
0°-40°	249.4	68.9
0°-60°	333.8	92.2
0°-90°	362.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	362.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	316	316	316	316	316	
5°	311	315	310	307	308	30
15°	295	287	252	225	215	83
25°	264	233	166	122	109	122
35°	225	169	86	47	42	140
45°	180	107	35	23	19	139
55°	134	51	15	9	8	120
65°	87	19	5	4	4	87
75°	42	4	2	2	2	45
85°	6	0	1	0	0	9
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	315.9	315.9	315.9	315.9	315.9
2.5°	312.4	317.1	313.2	313.2	314.0
5°	310.9	314.8	309.7	306.6	307.8
7.5°	308.6	311.3	300.8	291.5	290.8
10°	305.1	306.3	287.3	273.0	269.1
12.5°	300.1	297.3	270.6	250.5	243.9
15°	294.6	287.3	252.0	225.3	215.3
17.5°	288.1	274.9	231.5	199.0	186.6
20°	280.7	262.1	210.2	171.5	158.0
22.5°	272.6	247.8	188.2	145.6	132.0
25°	264.1	233.1	166.1	121.6	108.8
27.5°	255.1	217.6	144.4	99.9	86.0
30°	244.7	201.7	123.9	79.0	66.2
32.5°	235.0	185.1	104.9	61.2	50.3
35°	224.6	169.2	86.0	46.8	41.8
37.5°	213.7	153.3	69.3	39.5	35.2
40°	202.9	137.4	54.2	33.3	29.4
42.5°	191.7	122.0	41.8	27.9	24.0
45°	180.0	106.9	35.2	22.8	19.4
47.5°	168.4	91.8	29.4	18.2	15.5
50°	156.8	77.4	24.4	14.3	12.4
52.5°	145.6	63.9	19.4	11.6	10.1
55°	134.0	50.7	15.1	9.3	8.1
57.5°	122.3	39.5	11.6	7.7	7.0
60°	111.1	29.8	8.9	6.2	5.8
62.5°	99.5	24.0	7.0	5.0	4.6
65°	87.1	18.6	5.4	4.3	3.9
67.5°	75.9	13.6	4.3	3.5	3.1
70°	64.3	9.3	3.5	3.1	2.7
72.5°	53.0	5.8	2.7	2.3	2.3
75°	42.2	3.9	2.3	1.9	1.5
77.5°	32.1	2.3	1.5	1.5	1.2
80°	22.5	1.5	1.2	1.2	1.2
82.5°	13.9	1.2	0.8	0.8	0.8
85°	6.2	0.4	0.8	0.4	0.4
87.5°	1.2	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	14.47	15.79	14.83	16.10	16.42	0.75	2.07	1.12	2.39	2.70
	3H	16.94	18.11	17.32	18.44	18.81	1.61	2.78	1.99	3.11	3.48
	4H	17.90	18.99	18.30	19.34	19.72	1.87	2.97	2.28	3.32	3.70
	6H	18.58	19.59	19.00	19.96	20.35	2.08	3.08	2.49	3.45	3.85
	8H	18.78	19.73	19.21	20.12	20.52	2.16	3.11	2.59	3.50	3.91
	12H	18.86	19.77	19.29	20.15	20.58	2.19	3.10	2.62	3.48	3.91
4H	2H	14.25	15.34	14.66	15.70	16.08	1.33	2.42	1.73	2.77	3.15
	3H	16.74	17.63	17.15	18.04	18.44	2.37	3.26	2.78	3.66	4.07
	4H	17.68	18.48	18.12	18.90	19.34	2.72	3.52	3.15	3.94	4.38
	6H	18.44	19.13	18.90	19.57	20.04	3.02	3.71	3.49	4.16	4.63
	8H	18.68	19.32	19.15	19.77	20.24	3.13	3.78	3.60	4.23	4.70
	12H	18.81	19.38	19.29	19.86	20.33	3.19	3.75	3.67	4.24	4.71
8H	4H	17.55	18.19	18.02	18.64	19.11	3.09	3.73	3.56	4.18	4.65
	6H	18.29	18.81	18.79	19.31	19.79	3.47	3.99	3.97	4.49	4.97
	8H	18.53	19.00	19.05	19.52	20.01	3.62	4.09	4.14	4.61	5.10
	12H	18.68	19.10	19.20	19.59	20.16	3.71	4.13	4.23	4.62	5.19
12H	4H	17.50	18.07	17.99	18.56	19.03	3.21	3.78	3.70	4.26	4.74
	6H	18.23	18.70	18.75	19.21	19.70	3.59	4.06	4.11	4.57	5.07
	8H	18.49	18.90	19.01	19.40	19.97	3.78	4.20	4.30	4.69	5.26