

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: P1055324

Luminaire Tested: S122R3DR-H290D935-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055324
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-H290D935-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, 90 CRI LEDS
Ballast/Driver: -

Summary

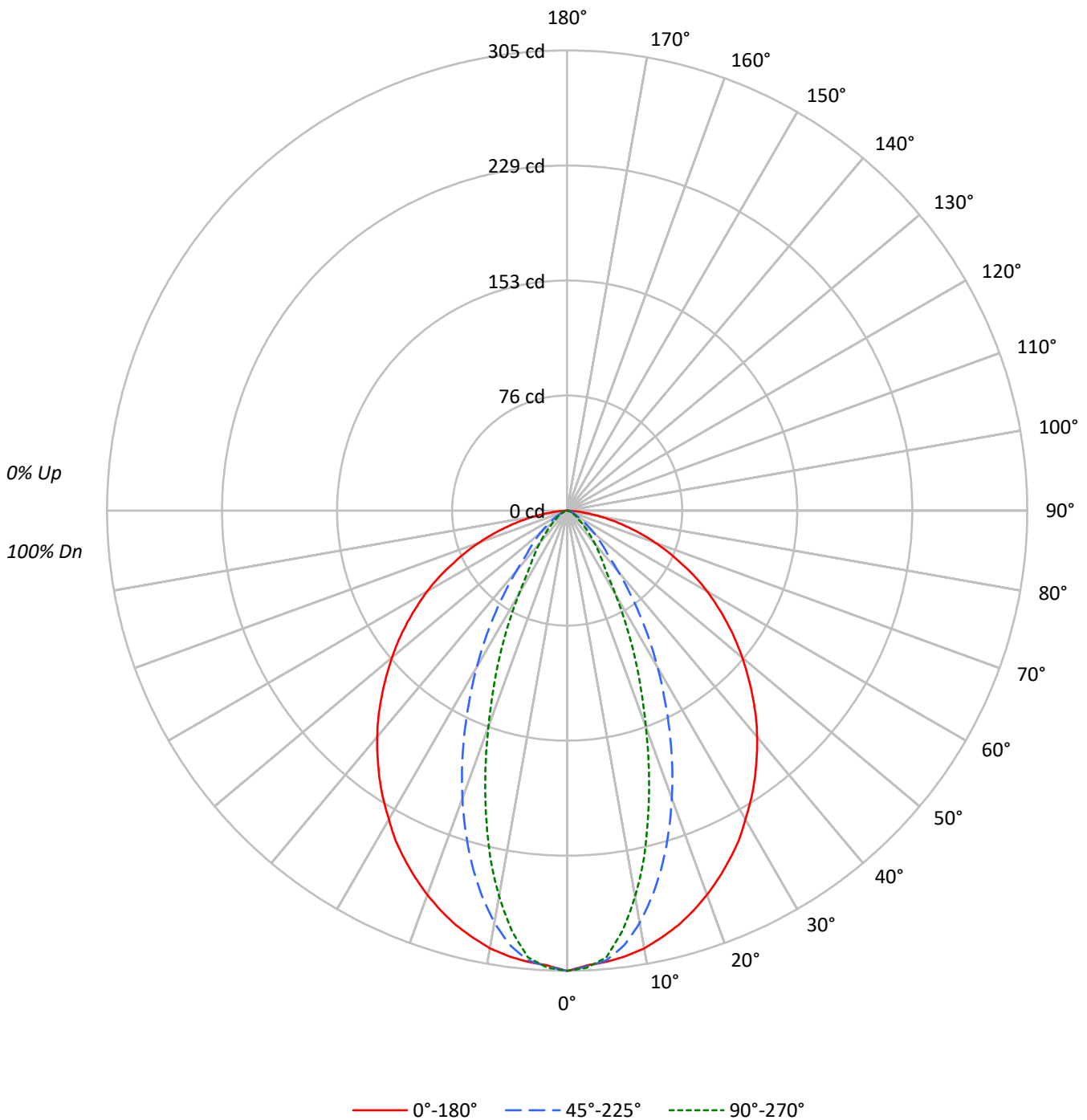
Lumens per Lamp: N/A
Luminaire Lumens: 349.6 lumens
Efficiency: N/A
Efficacy: 29.9 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.64 / 0.81
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
Input Voltage (V): 120
Input Current (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	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°	5780	5780	5780
5°	5709	5688	5652
10°	5668	5337	4998
15°	5580	4774	4078
20°	5464	4093	3075
25°	5331	3353	2195
30°	5169	2616	1398
35°	5014	1920	934
40°	4845	1293	702
45°	4657	911	501
50°	4462	696	354
55°	4271	482	261
60°	4066	326	212
65°	3770	233	166
70°	3440	188	144
75°	2979	161	110
80°	2368	120	120
85°	1304	152	87

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4657 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	27.9	8.0
10°-20°	68.5	19.6
20°-30°	78.2	22.4
30°-40°	66.3	19.0
40°-50°	49.5	14.2
50°-60°	32.0	9.1
60°-70°	17.8	5.1
70°-80°	7.8	2.2
80°-90°	1.6	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°	174.6	49.9
0°-40°	240.9	68.9
0°-60°	322.3	92.2
0°-90°	349.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	349.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	305	305	305	305	305	
5°	300	304	299	296	297	28
15°	284	277	243	218	208	80
25°	255	225	160	117	105	117
35°	217	163	83	45	40	136
45°	174	103	34	22	19	134
55°	129	49	15	9	8	116
65°	84	18	5	4	4	84
75°	41	4	2	2	2	43
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°	305.1	305.1	305.1	305.1	305.1
2.5°	301.7	306.2	302.4	302.4	303.2
5°	300.2	303.9	299.1	296.1	297.2
7.5°	297.9	300.6	290.5	281.5	280.8
10°	294.6	295.7	277.4	263.6	259.8
12.5°	289.7	287.1	261.3	241.9	235.5
15°	284.5	277.4	243.4	217.6	207.9
17.5°	278.1	265.4	223.6	192.2	180.2
20°	271.0	253.1	203.0	165.6	152.5
22.5°	263.2	239.3	181.7	140.6	127.5
25°	255.0	225.1	160.4	117.4	105.0
27.5°	246.4	210.1	139.4	96.5	83.0
30°	236.3	194.8	119.6	76.3	63.9
32.5°	226.9	178.7	101.3	59.1	48.6
35°	216.8	163.4	83.0	45.2	40.4
37.5°	206.4	148.0	66.9	38.1	34.0
40°	195.9	132.7	52.3	32.2	28.4
42.5°	185.1	117.8	40.4	26.9	23.2
45°	173.8	103.2	34.0	22.1	18.7
47.5°	162.6	88.6	28.4	17.6	15.0
50°	151.4	74.8	23.6	13.8	12.0
52.5°	140.6	61.7	18.7	11.2	9.7
55°	129.3	49.0	14.6	9.0	7.9
57.5°	118.1	38.1	11.2	7.5	6.7
60°	107.3	28.8	8.6	6.0	5.6
62.5°	96.1	23.2	6.7	4.9	4.5
65°	84.1	17.9	5.2	4.1	3.7
67.5°	73.3	13.1	4.1	3.4	3.0
70°	62.1	9.0	3.4	3.0	2.6
72.5°	51.2	5.6	2.6	2.2	2.2
75°	40.7	3.7	2.2	1.9	1.5
77.5°	31.0	2.2	1.5	1.5	1.1
80°	21.7	1.5	1.1	1.1	1.1
82.5°	13.5	1.1	0.7	0.7	0.7
85°	6.0	0.4	0.7	0.4	0.4
87.5°	1.1	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	14.34	15.66	14.71	15.97	16.29	0.67	1.99	1.04	2.30	2.62
	3H	16.82	17.99	17.20	18.32	18.68	1.52	2.69	1.90	3.02	3.39
	4H	17.77	18.86	18.17	19.21	19.60	1.79	2.89	2.20	3.24	3.62
	6H	18.46	19.46	18.87	19.83	20.23	1.98	2.98	2.39	3.35	3.74
	8H	18.65	19.60	19.08	20.00	20.40	2.04	2.99	2.47	3.38	3.79
	12H	18.74	19.65	19.17	20.03	20.46	2.07	2.97	2.50	3.36	3.79
4H	2H	14.13	15.22	14.53	15.57	15.95	1.23	2.32	1.63	2.67	3.06
	3H	16.62	17.51	17.03	17.92	18.32	2.27	3.16	2.68	3.56	3.97
	4H	17.56	18.36	17.99	18.78	19.22	2.64	3.44	3.07	3.86	4.30
	6H	18.31	19.00	18.77	19.45	19.91	2.92	3.61	3.38	4.06	4.52
	8H	18.56	19.20	19.03	19.65	20.12	3.00	3.65	3.47	4.10	4.57
	12H	18.69	19.25	19.17	19.74	20.21	3.05	3.62	3.54	4.10	4.58
8H	4H	17.42	18.07	17.89	18.52	18.99	3.00	3.65	3.47	4.10	4.57
	6H	18.16	18.69	18.66	19.18	19.67	3.35	3.88	3.85	4.37	4.85
	8H	18.41	18.88	18.93	19.39	19.89	3.47	3.94	3.99	4.46	4.95
	12H	18.56	18.97	19.08	19.47	20.04	3.56	3.97	4.07	4.47	5.04
12H	4H	17.38	17.95	17.87	18.43	18.91	3.12	3.69	3.61	4.17	4.65
	6H	18.10	18.57	18.62	19.09	19.58	3.47	3.94	3.99	4.45	4.94
	8H	18.37	18.78	18.88	19.28	19.85	3.63	4.04	4.14	4.53	5.11