

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: P1055321

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

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055321
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-H290D930-X4F0-XX-UDD-F-S
Description: DEFINE 2, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

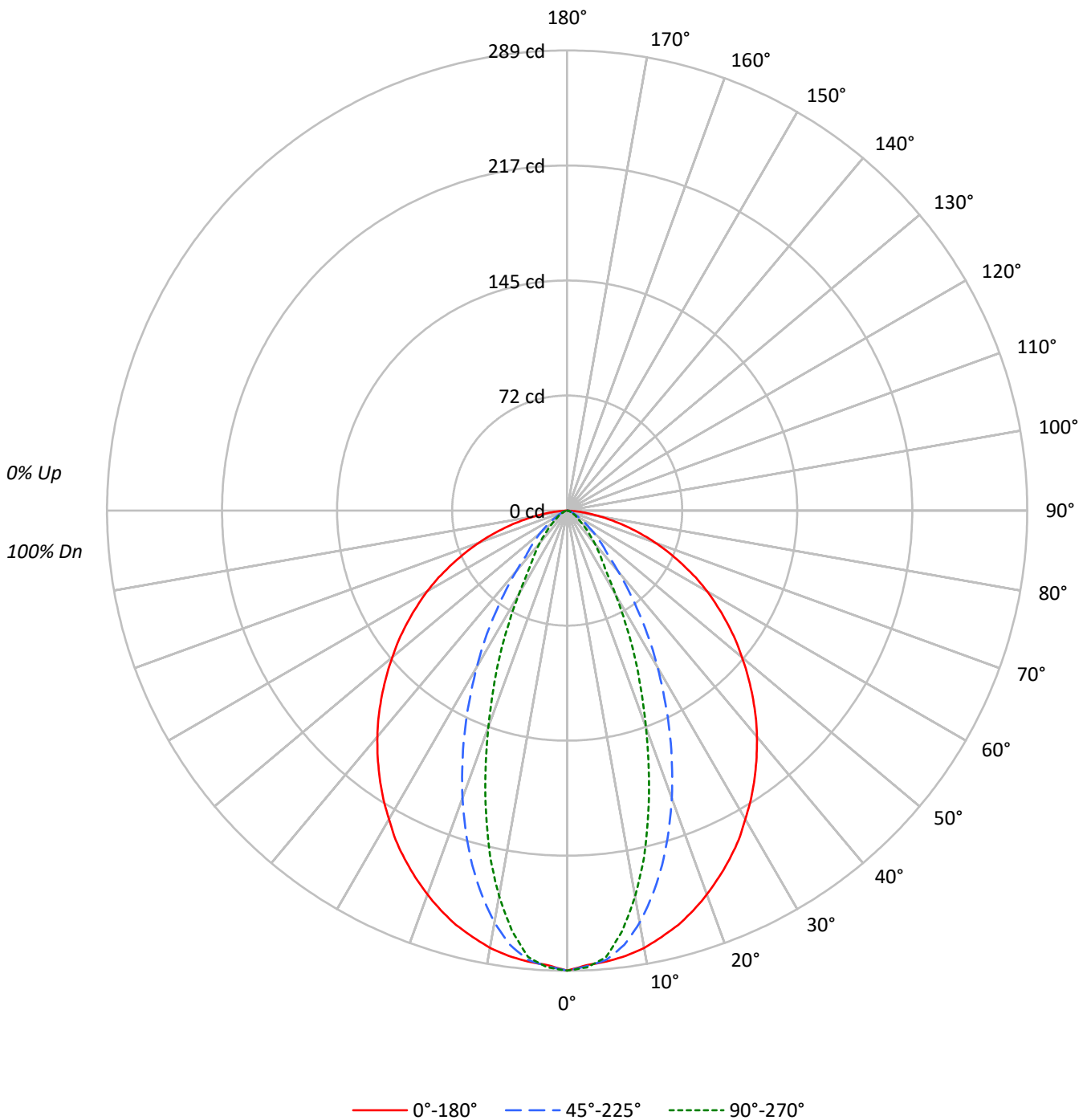
Lumens per Lamp: N/A
Luminaire Lumens: 331.1 lumens
Efficiency: N/A
Efficacy: 28.3 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.64 / 0.81
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

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°	5473	5473	5473
5°	5407	5386	5352
10°	5366	5054	4733
15°	5284	4521	3860
20°	5174	3875	2911
25°	5046	3175	2080
30°	4894	2479	1324
35°	4748	1818	884
40°	4588	1227	665
45°	4410	863	474
50°	4227	657	333
55°	4046	456	244
60°	3850	307	201
65°	3568	224	157
70°	3257	177	138
75°	2826	154	102
80°	2237	120	120
85°	1239	152	87

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4410 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	26.4	8.0
10°-20°	64.8	19.6
20°-30°	74.0	22.4
30°-40°	62.8	19.0
40°-50°	46.9	14.2
50°-60°	30.3	9.1
60°-70°	16.9	5.1
70°-80°	7.4	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°	165.3	49.9
0°-40°	228.1	68.9
0°-60°	305.2	92.2
0°-90°	331.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	331.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	289	289	289	289	289	
5°	284	288	283	280	281	27
15°	269	263	230	206	197	76
25°	241	213	152	111	100	111
35°	205	155	79	43	38	128
45°	165	98	32	21	18	127
55°	122	46	14	8	7	110
65°	80	17	5	4	4	79
75°	39	4	2	2	1	41
85°	6	0	1	0	0	8
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	288.9	288.9	288.9	288.9	288.9
2.5°	285.7	289.9	286.4	286.4	287.1
5°	284.3	287.8	283.2	280.4	281.4
7.5°	282.1	284.6	275.1	266.6	265.9
10°	278.9	280.0	262.7	249.6	246.0
12.5°	274.3	271.9	247.4	229.0	223.0
15°	269.4	262.7	230.5	206.0	196.8
17.5°	263.4	251.3	211.7	182.0	170.6
20°	256.6	239.7	192.2	156.8	144.4
22.5°	249.2	226.6	172.0	133.1	120.7
25°	241.4	213.1	151.9	111.2	99.5
27.5°	233.3	198.9	132.0	91.3	78.6
30°	223.7	184.4	113.3	72.2	60.5
32.5°	214.9	169.2	95.9	55.9	46.0
35°	205.3	154.7	78.6	42.8	38.2
37.5°	195.4	140.2	63.4	36.1	32.2
40°	185.5	125.7	49.6	30.4	26.9
42.5°	175.2	111.5	38.2	25.5	21.9
45°	164.6	97.7	32.2	20.9	17.7
47.5°	154.0	83.9	26.9	16.6	14.2
50°	143.4	70.8	22.3	13.1	11.3
52.5°	133.1	58.4	17.7	10.6	9.2
55°	122.5	46.4	13.8	8.5	7.4
57.5°	111.9	36.1	10.6	7.1	6.4
60°	101.6	27.3	8.1	5.7	5.3
62.5°	91.0	21.9	6.4	4.6	4.2
65°	79.6	17.0	5.0	3.9	3.5
67.5°	69.4	12.4	3.9	3.2	2.8
70°	58.8	8.5	3.2	2.8	2.5
72.5°	48.5	5.3	2.5	2.1	2.1
75°	38.6	3.5	2.1	1.8	1.4
77.5°	29.4	2.1	1.4	1.4	1.1
80°	20.5	1.4	1.1	1.1	1.1
82.5°	12.7	1.1	0.7	0.7	0.7
85°	5.7	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	14.16	15.48	14.52	15.79	16.10	0.49	1.81	0.85	2.12	2.44
	3H	16.63	17.80	17.01	18.13	18.49	1.33	2.50	1.71	2.83	3.20
	4H	17.58	18.68	17.99	19.03	19.41	1.60	2.69	2.00	3.04	3.43
	6H	18.27	19.27	18.69	19.64	20.04	1.80	2.81	2.22	3.18	3.57
	8H	18.46	19.41	18.89	19.81	20.21	1.88	2.83	2.31	3.22	3.63
	12H	18.55	19.46	18.98	19.84	20.27	1.91	2.82	2.34	3.20	3.63
4H	2H	13.94	15.03	14.35	15.39	15.77	1.07	2.16	1.47	2.51	2.89
	3H	16.43	17.32	16.84	17.73	18.13	2.09	2.98	2.50	3.38	3.79
	4H	17.37	18.17	17.81	18.59	19.03	2.45	3.25	2.89	3.67	4.12
	6H	18.12	18.81	18.59	19.26	19.73	2.76	3.45	3.22	3.90	4.36
	8H	18.37	19.01	18.84	19.46	19.93	2.86	3.50	3.33	3.95	4.42
	12H	18.50	19.06	18.98	19.55	20.02	2.91	3.48	3.40	3.97	4.44
8H	4H	17.24	17.88	17.71	18.33	18.80	2.82	3.47	3.29	3.91	4.38
	6H	17.98	18.50	18.48	19.00	19.48	3.20	3.72	3.70	4.22	4.70
	8H	18.22	18.69	18.74	19.21	19.70	3.34	3.81	3.86	4.32	4.82
	12H	18.37	18.78	18.89	19.28	19.85	3.44	3.85	3.95	4.34	4.92
12H	4H	17.19	17.76	17.68	18.24	18.72	2.94	3.51	3.43	3.99	4.47
	6H	17.91	18.39	18.44	18.90	19.39	3.32	3.79	3.84	4.30	4.80
	8H	18.18	18.59	18.69	19.09	19.66	3.50	3.91	4.01	4.41	4.98