

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: P1055330

Luminaire Tested: S122R3DR-H290D950-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055330
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-H290D950-X4F0-XX-UDD-F-S
Description: DEFINE 2, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

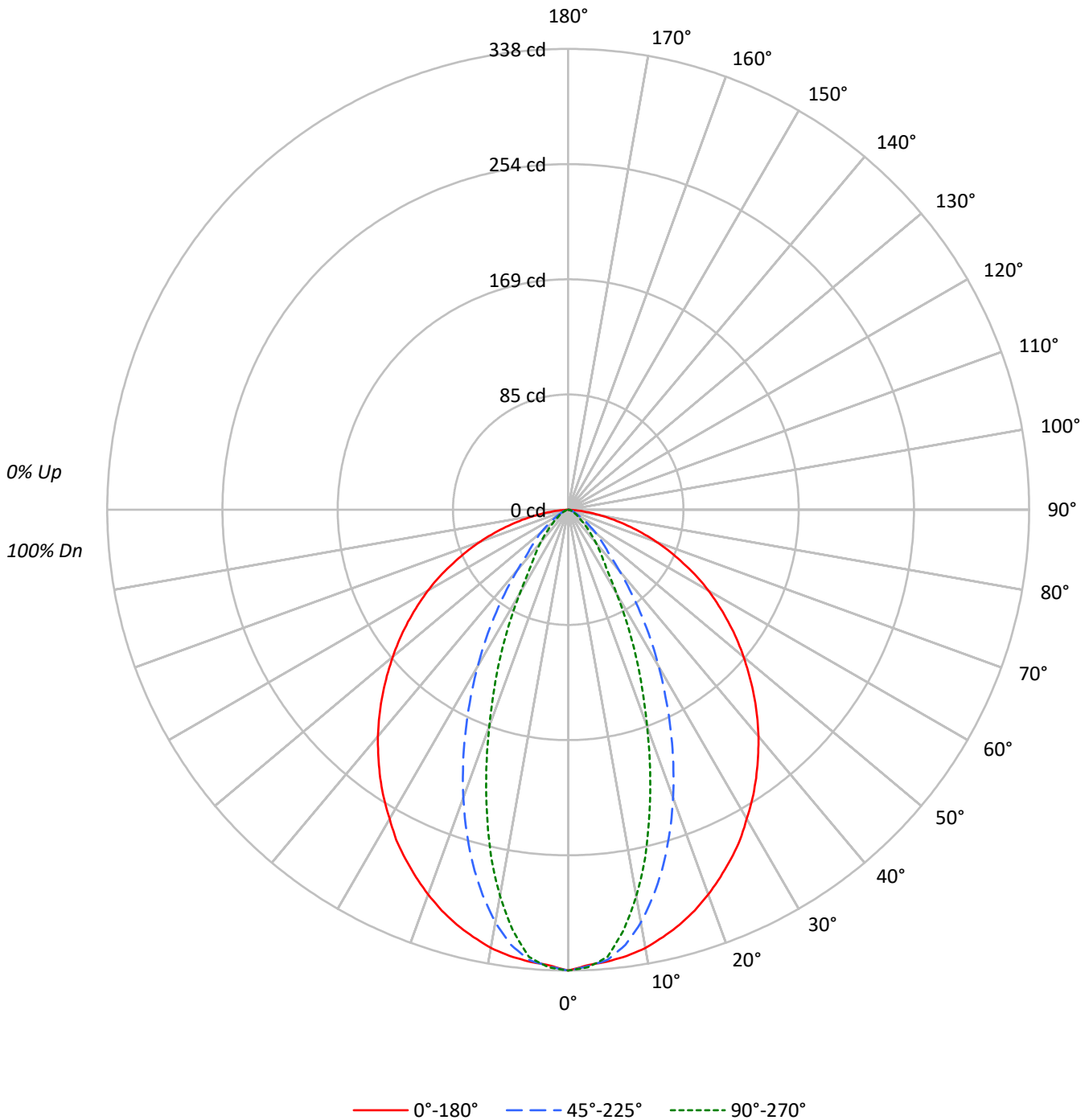
Lumens per Lamp: N/A
Luminaire Lumens: 387.3 lumens
Efficiency: N/A
Efficacy: 33.1 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.64 / 0.81
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

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	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°	6404	6404	6404
5°	6325	6303	6263
10°	6279	5914	5539
15°	6182	5290	4517
20°	6055	4534	3407
25°	5906	3715	2433
30°	5727	2901	1549
35°	5555	2128	1034
40°	5369	1434	779
45°	5160	1010	555
50°	4946	769	392
55°	4733	535	287
60°	4505	360	235
65°	4178	260	184
70°	3811	205	161
75°	3301	183	124
80°	2619	131	131
85°	1435	174	87

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5160 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.9	8.0
10°-20°	75.9	19.6
20°-30°	86.6	22.4
30°-40°	73.5	19.0
40°-50°	54.8	14.2
50°-60°	35.4	9.1
60°-70°	19.8	5.1
70°-80°	8.7	2.2
80°-90°	1.8	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°	193.4	49.9
0°-40°	266.9	68.9
0°-60°	357.1	92.2
0°-90°	387.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	387.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	338	338	338	338	338	
5°	333	337	331	328	329	32
15°	315	307	270	241	230	89
25°	282	249	178	130	116	130
35°	240	181	92	50	45	150
45°	193	114	38	24	21	149
55°	143	54	16	10	9	128
65°	93	20	6	5	4	93
75°	45	4	2	2	2	48
85°	7	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°	338.0	338.0	338.0	338.0	338.0
2.5°	334.3	339.2	335.1	335.1	335.9
5°	332.6	336.8	331.4	328.1	329.3
7.5°	330.1	333.0	321.8	311.9	311.1
10°	326.4	327.6	307.4	292.0	287.9
12.5°	321.0	318.1	289.5	268.0	261.0
15°	315.2	307.4	269.7	241.1	230.3
17.5°	308.2	294.1	247.7	212.9	199.7
20°	300.3	280.4	224.9	183.5	169.0
22.5°	291.6	265.1	201.3	155.7	141.2
25°	282.5	249.4	177.7	130.1	116.4
27.5°	273.0	232.8	154.5	106.9	92.0
30°	261.8	215.8	132.6	84.5	70.8
32.5°	251.4	198.0	112.3	65.4	53.8
35°	240.2	181.0	92.0	50.1	44.7
37.5°	228.6	164.0	74.1	42.3	37.7
40°	217.1	147.0	58.0	35.6	31.5
42.5°	205.0	130.5	44.7	29.8	25.7
45°	192.6	114.3	37.7	24.4	20.7
47.5°	180.2	98.2	31.5	19.5	16.6
50°	167.8	82.8	26.1	15.3	13.3
52.5°	155.7	68.3	20.7	12.4	10.8
55°	143.3	54.3	16.2	9.9	8.7
57.5°	130.9	42.3	12.4	8.3	7.5
60°	118.9	31.9	9.5	6.6	6.2
62.5°	106.5	25.7	7.5	5.4	5.0
65°	93.2	19.9	5.8	4.6	4.1
67.5°	81.2	14.5	4.6	3.7	3.3
70°	68.8	9.9	3.7	3.3	2.9
72.5°	56.7	6.2	2.9	2.5	2.5
75°	45.1	4.1	2.5	2.1	1.7
77.5°	34.4	2.5	1.7	1.7	1.2
80°	24.0	1.7	1.2	1.2	1.2
82.5°	14.9	1.2	0.8	0.8	0.8
85°	6.6	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	14.71	16.03	15.07	16.34	16.66	1.03	2.35	1.39	2.66	2.98
	3H	17.18	18.35	17.55	18.68	19.04	1.87	3.04	2.25	3.37	3.73
	4H	18.13	19.22	18.53	19.57	19.95	2.15	3.24	2.55	3.59	3.98
	6H	18.82	19.82	19.23	20.19	20.58	2.33	3.33	2.74	3.70	4.10
	8H	19.01	19.96	19.44	20.35	20.76	2.40	3.35	2.83	3.74	4.14
	12H	19.09	20.00	19.52	20.38	20.81	2.42	3.33	2.85	3.71	4.14
4H	2H	14.49	15.58	14.90	15.94	16.32	1.60	2.69	2.00	3.04	3.42
	3H	16.97	17.87	17.39	18.27	18.68	2.62	3.51	3.03	3.92	4.32
	4H	17.91	18.72	18.35	19.13	19.58	3.00	3.80	3.43	4.22	4.66
	6H	18.67	19.36	19.13	19.81	20.27	3.28	3.97	3.74	4.42	4.88
	8H	18.91	19.56	19.38	20.00	20.48	3.37	4.01	3.84	4.46	4.93
	12H	19.04	19.61	19.53	20.09	20.57	3.41	3.98	3.89	4.46	4.93
8H	4H	17.78	18.43	18.25	18.87	19.34	3.37	4.02	3.84	4.46	4.93
	6H	18.52	19.05	19.02	19.54	20.02	3.71	4.24	4.22	4.74	5.22
	8H	18.77	19.24	19.29	19.75	20.24	3.84	4.31	4.36	4.83	5.32
	12H	18.91	19.33	19.43	19.82	20.40	3.92	4.33	4.43	4.82	5.40
12H	4H	17.74	18.31	18.22	18.79	19.26	3.49	4.06	3.98	4.54	5.02
	6H	18.46	18.93	18.98	19.45	19.94	3.83	4.30	4.35	4.82	5.31
	8H	18.72	19.14	19.24	19.63	20.20	4.00	4.41	4.51	4.91	5.48