

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: P1055315

Luminaire Tested: S122R3DR-H290D850-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055315
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-H290D850-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, 80 CRI LEDS
Ballast/Driver: -

Summary

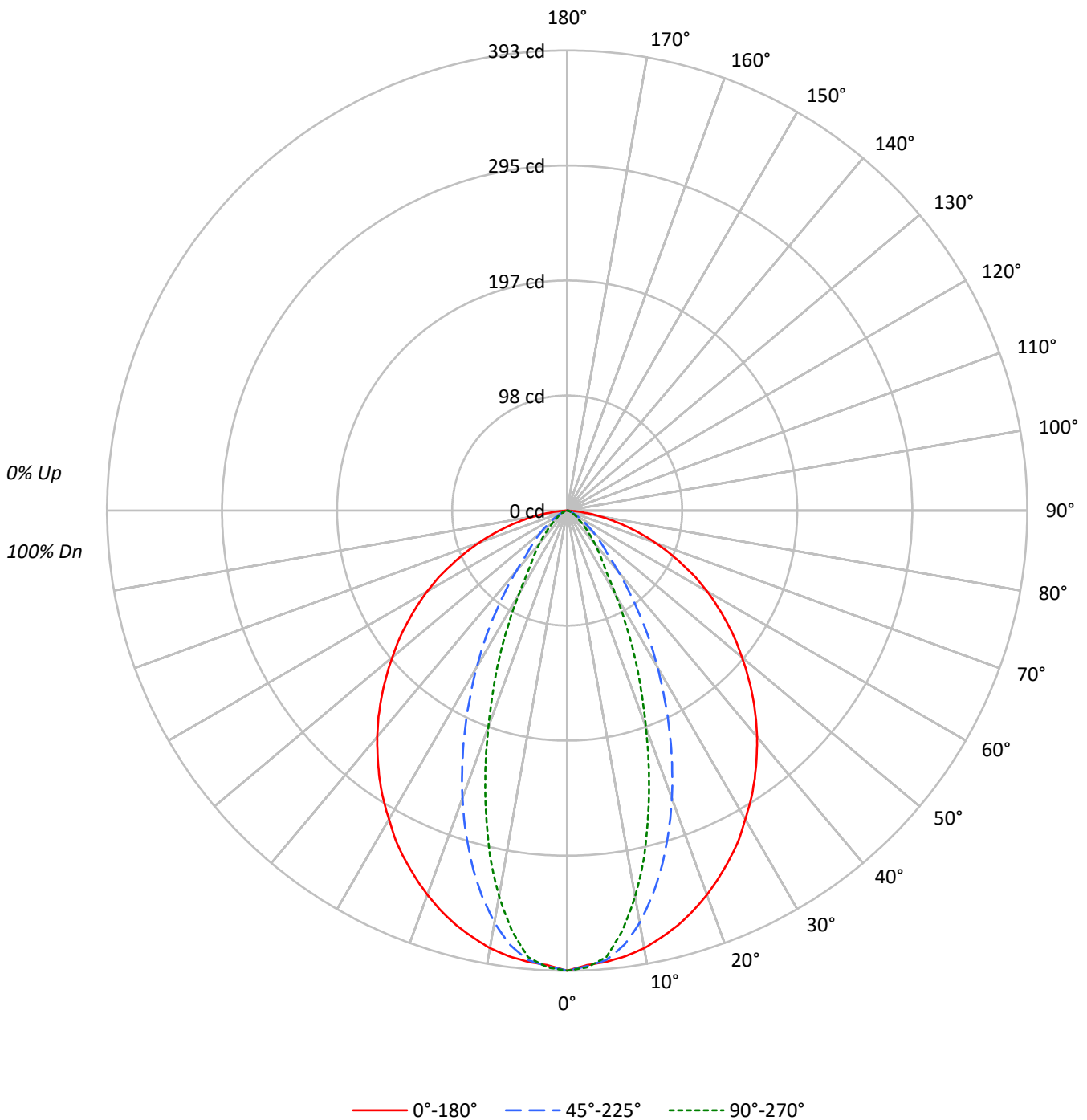
Lumens per Lamp: N/A
Luminaire Lumens: 450.3 lumens
Efficiency: N/A
Efficacy: 38.5 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.64 / 0.81
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

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°	7444	7444	7444
5°	7354	7326	7280
10°	7299	6874	6439
15°	7187	6149	5251
20°	7038	5272	3962
25°	6865	4319	2828
30°	6657	3371	1800
35°	6460	2472	1203
40°	6240	1667	905
45°	5999	1174	646
50°	5748	893	454
55°	5503	621	334
60°	5237	421	273
65°	4855	300	215
70°	4426	238	188
75°	3843	212	139
80°	3044	153	153
85°	1674	217	109

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5999 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.9	8.0
10°-20°	88.2	19.6
20°-30°	100.7	22.4
30°-40°	85.4	19.0
40°-50°	63.7	14.2
50°-60°	41.2	9.1
60°-70°	23.0	5.1
70°-80°	10.1	2.2
80°-90°	2.1	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°	224.8	49.9
0°-40°	310.2	68.9
0°-60°	415.2	92.2
0°-90°	450.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	450.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	393	393	393	393	393	
5°	387	392	385	381	383	37
15°	366	357	314	280	268	103
25°	328	290	207	151	135	151
35°	279	210	107	58	52	175
45°	224	133	44	28	24	173
55°	167	63	19	12	10	149
65°	108	23	7	5	5	108
75°	52	5	3	2	2	56
85°	8	0	1	0	0	11
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	392.9	392.9	392.9	392.9	392.9
2.5°	388.6	394.4	389.5	389.5	390.5
5°	386.7	391.5	385.2	381.4	382.8
7.5°	383.8	387.1	374.1	362.6	361.6
10°	379.4	380.9	357.3	339.5	334.7
12.5°	373.2	369.8	336.6	311.5	303.4
15°	366.4	357.3	313.5	280.2	267.7
17.5°	358.3	341.9	287.9	247.5	232.1
20°	349.1	326.0	261.5	213.3	196.5
22.5°	339.0	308.2	234.0	181.1	164.2
25°	328.4	289.9	206.6	151.2	135.3
27.5°	317.3	270.6	179.6	124.2	106.9
30°	304.3	250.9	154.1	98.2	82.3
32.5°	292.3	230.2	130.5	76.1	62.6
35°	279.3	210.4	106.9	58.3	52.0
37.5°	265.8	190.7	86.2	49.1	43.8
40°	252.3	170.9	67.4	41.4	36.6
42.5°	238.4	151.7	52.0	34.7	29.9
45°	223.9	132.9	43.8	28.4	24.1
47.5°	209.5	114.1	36.6	22.6	19.3
50°	195.0	96.3	30.3	17.8	15.4
52.5°	181.1	79.5	24.1	14.4	12.5
55°	166.6	63.1	18.8	11.6	10.1
57.5°	152.2	49.1	14.4	9.6	8.7
60°	138.2	37.1	11.1	7.7	7.2
62.5°	123.8	29.9	8.7	6.3	5.8
65°	108.3	23.1	6.7	5.3	4.8
67.5°	94.4	16.9	5.3	4.3	3.9
70°	79.9	11.6	4.3	3.9	3.4
72.5°	66.0	7.2	3.4	2.9	2.9
75°	52.5	4.8	2.9	2.4	1.9
77.5°	40.0	2.9	1.9	1.9	1.4
80°	27.9	1.9	1.4	1.4	1.4
82.5°	17.3	1.4	1.0	1.0	1.0
85°	7.7	0.5	1.0	0.5	0.5
87.5°	1.4	0.5	0.5	0.5	0.5
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	15.23	16.55	15.59	16.86	17.17	1.52	2.84	1.89	3.15	3.47
	3H	17.70	18.87	18.08	19.20	19.56	2.38	3.56	2.76	3.89	4.25
	4H	18.65	19.74	19.06	20.10	20.48	2.66	3.75	3.06	4.10	4.48
	6H	19.34	20.34	19.76	20.71	21.11	2.83	3.84	3.25	4.21	4.60
	8H	19.53	20.49	19.96	20.88	21.28	2.91	3.86	3.34	4.25	4.66
	12H	19.62	20.52	20.05	20.91	21.34	2.94	3.85	3.37	4.23	4.66
4H	2H	15.01	16.10	15.41	16.45	16.84	2.09	3.18	2.49	3.53	3.92
	3H	17.50	18.39	17.91	18.80	19.20	3.14	4.03	3.55	4.44	4.84
	4H	18.44	19.24	18.87	19.66	20.10	3.50	4.30	3.94	4.72	5.16
	6H	19.19	19.89	19.66	20.33	20.80	3.78	4.47	4.24	4.91	5.38
	8H	19.44	20.08	19.91	20.53	21.00	3.88	4.53	4.35	4.97	5.44
	12H	19.56	20.13	20.05	20.62	21.09	3.93	4.50	4.42	4.99	5.46
8H	4H	18.31	18.95	18.78	19.40	19.87	3.87	4.52	4.34	4.96	5.44
	6H	19.05	19.57	19.55	20.07	20.55	4.21	4.74	4.72	5.23	5.72
	8H	19.29	19.76	19.81	20.27	20.77	4.36	4.83	4.88	5.35	5.84
	12H	19.44	19.85	19.95	20.35	20.92	4.46	4.87	4.97	5.36	5.94
12H	4H	18.26	18.83	18.75	19.31	19.79	3.99	4.56	4.48	5.05	5.52
	6H	18.98	19.46	19.51	19.97	20.46	4.33	4.80	4.86	5.32	5.81
	8H	19.25	19.66	19.76	20.16	20.73	4.52	4.94	5.04	5.43	6.01