

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: P1055177

Luminaire Tested: S122R3DR-S290D840-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055177
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-S290D840-X4F0-XX-UDD-F-S
Description: DEFINE 2, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

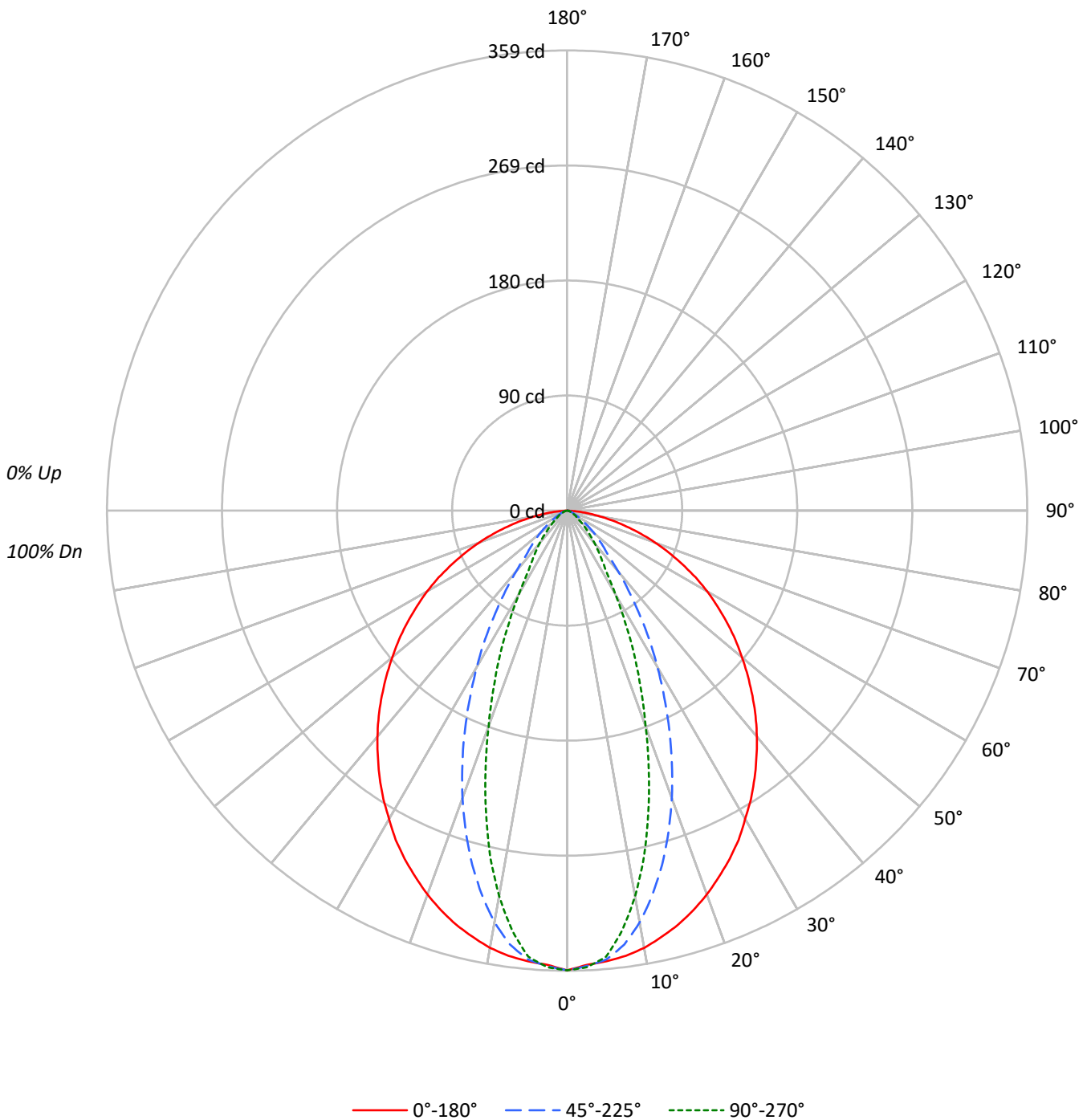
Lumens per Lamp: N/A
Luminaire Lumens: 411.0 lumens
Efficiency: N/A
Efficacy: 32.6 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.64 / 0.81
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
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	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°	6796	6796	6796
5°	6713	6687	6645
10°	6664	6274	5877
15°	6561	5612	4794
20°	6426	4813	3615
25°	6267	3943	2582
30°	6077	3078	1645
35°	5895	2257	1099
40°	5696	1521	826
45°	5477	1072	589
50°	5246	816	416
55°	5024	565	304
60°	4782	383	250
65°	4434	278	197
70°	4044	222	172
75°	3506	190	132
80°	2782	142	142
85°	1522	196	87

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5477 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.8	8.0
10°-20°	80.5	19.6
20°-30°	91.9	22.4
30°-40°	78.0	19.0
40°-50°	58.2	14.2
50°-60°	37.6	9.1
60°-70°	21.0	5.1
70°-80°	9.2	2.2
80°-90°	1.9	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°	205.2	49.9
0°-40°	283.2	68.9
0°-60°	379.0	92.2
0°-90°	411.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	411.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	359	359	359	359	359	
5°	353	357	352	348	349	33
15°	334	326	286	256	244	94
25°	300	265	189	138	124	138
35°	255	192	98	53	48	159
45°	204	121	40	26	22	158
55°	152	58	17	10	9	136
65°	99	21	6	5	4	98
75°	48	4	3	2	2	51
85°	7	0	1	0	0	10
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	358.7	358.7	358.7	358.7	358.7
2.5°	354.7	360.0	355.6	355.6	356.5
5°	353.0	357.4	351.6	348.1	349.4
7.5°	350.3	353.4	341.5	331.0	330.1
10°	346.4	347.7	326.1	309.9	305.5
12.5°	340.7	337.6	307.2	284.4	276.9
15°	334.5	326.1	286.1	255.8	244.4
17.5°	327.0	312.1	262.9	225.9	211.9
20°	318.7	297.6	238.7	194.7	179.3
22.5°	309.4	281.3	213.6	165.3	149.9
25°	299.8	264.6	188.6	138.0	123.5
27.5°	289.7	247.0	164.0	113.4	97.6
30°	277.8	229.0	140.7	89.7	75.2
32.5°	266.8	210.1	119.1	69.4	57.1
35°	254.9	192.1	97.6	53.2	47.5
37.5°	242.6	174.1	78.7	44.8	40.0
40°	230.3	156.0	61.5	37.8	33.4
42.5°	217.6	138.5	47.5	31.6	27.3
45°	204.4	121.3	40.0	25.9	22.0
47.5°	191.2	104.2	33.4	20.7	17.6
50°	178.0	87.9	27.7	16.3	14.1
52.5°	165.3	72.5	22.0	13.2	11.4
55°	152.1	57.6	17.1	10.5	9.2
57.5°	138.9	44.8	13.2	8.8	7.9
60°	126.2	33.8	10.1	7.0	6.6
62.5°	113.0	27.3	7.9	5.7	5.3
65°	98.9	21.1	6.2	4.8	4.4
67.5°	86.2	15.4	4.8	4.0	3.5
70°	73.0	10.5	4.0	3.5	3.1
72.5°	60.2	6.6	3.1	2.6	2.6
75°	47.9	4.4	2.6	2.2	1.8
77.5°	36.5	2.6	1.8	1.8	1.3
80°	25.5	1.8	1.3	1.3	1.3
82.5°	15.8	1.3	0.9	0.9	0.9
85°	7.0	0.4	0.9	0.4	0.4
87.5°	1.3	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	14.91	16.23	15.27	16.54	16.85	1.22	2.54	1.59	2.85	3.17
	3H	17.38	18.55	17.76	18.88	19.24	2.08	3.25	2.46	3.58	3.94
	4H	18.33	19.43	18.74	19.78	20.16	2.35	3.44	2.75	3.79	4.18
	6H	19.02	20.03	19.44	20.40	20.79	2.54	3.54	2.95	3.91	4.31
	8H	19.22	20.17	19.65	20.56	20.96	2.62	3.57	3.05	3.96	4.36
	12H	19.30	20.21	19.73	20.59	21.02	2.64	3.55	3.07	3.93	4.36
4H	2H	14.69	15.78	15.09	16.13	16.52	1.80	2.89	2.21	3.25	3.63
	3H	17.18	18.07	17.59	18.48	18.88	2.83	3.73	3.25	4.13	4.54
	4H	18.12	18.92	18.56	19.34	19.78	3.20	4.00	3.64	4.42	4.87
	6H	18.88	19.57	19.34	20.01	20.48	3.49	4.18	3.95	4.63	5.10
	8H	19.12	19.76	19.59	20.21	20.68	3.59	4.24	4.06	4.69	5.16
	12H	19.25	19.82	19.73	20.30	20.77	3.63	4.20	4.12	4.69	5.16
8H	4H	17.99	18.63	18.46	19.08	19.55	3.57	4.22	4.04	4.67	5.14
	6H	18.73	19.25	19.23	19.75	20.23	3.93	4.46	4.43	4.95	5.43
	8H	18.97	19.44	19.49	19.96	20.45	4.07	4.54	4.60	5.06	5.55
	12H	19.12	19.53	19.64	20.03	20.60	4.15	4.56	4.66	5.06	5.63
12H	4H	17.94	18.51	18.43	19.00	19.47	3.70	4.26	4.18	4.75	5.22
	6H	18.67	19.14	19.19	19.65	20.15	4.05	4.52	4.57	5.04	5.53
	8H	18.93	19.35	19.45	19.84	20.41	4.23	4.65	4.75	5.14	5.71