

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: P1055178

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

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055178
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-1)
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-W
Description: DEFINE 2, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

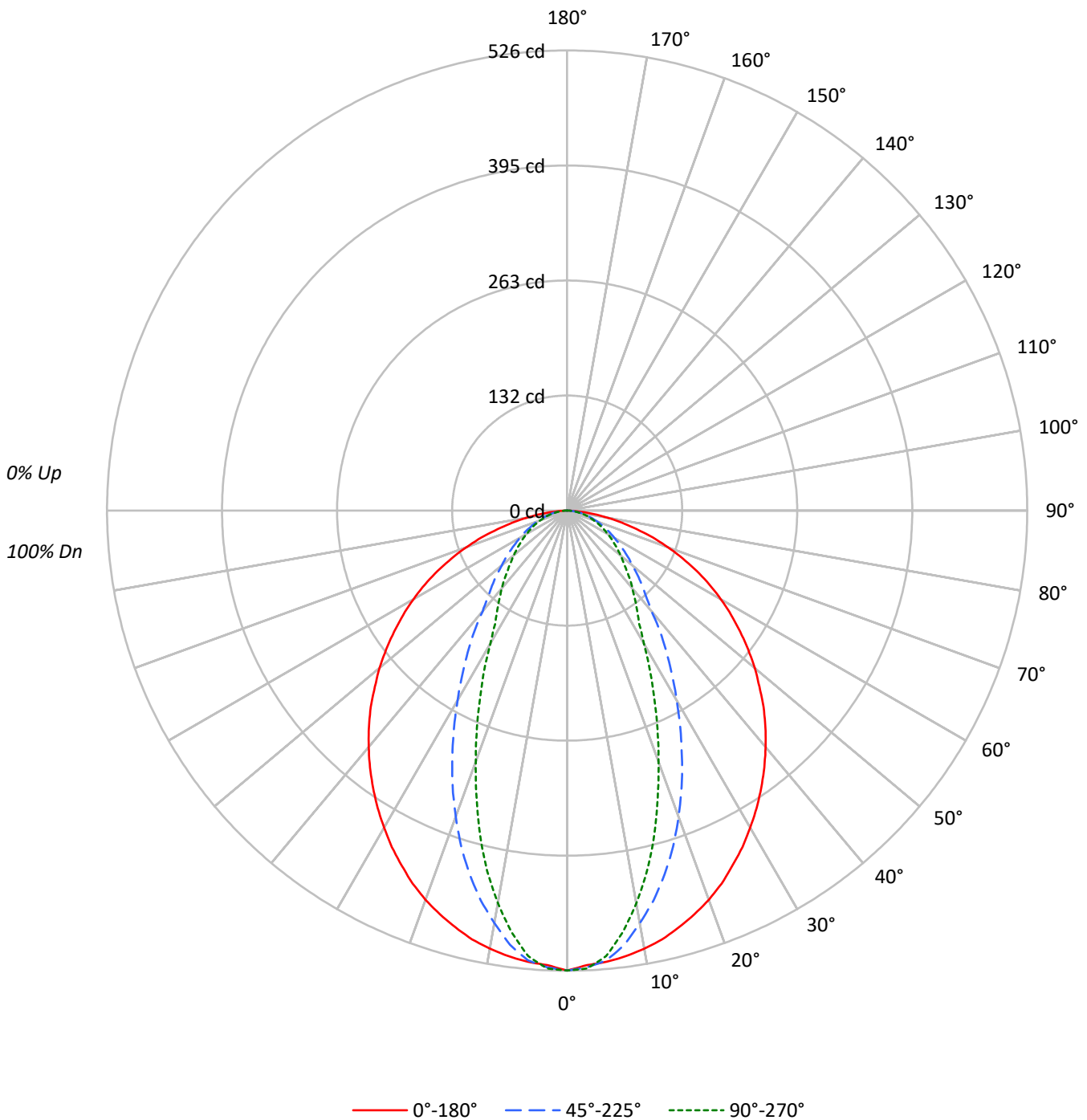
Lumens per Lamp: N/A
Luminaire Lumens: 795.1 lumens
Efficiency: N/A
Efficacy: 63.1 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.71 / 0.9
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
Input Voltage (V): 120
Input Current (Ain): 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	110	106	102	99	108	104	101	97	100	97	94	96	94	92	92	91	89	87				87
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75				75
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66				66
4	87	76	69	63	85	75	68	62	73	66	61	71	65	61	68	64	60	58				58
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	54	52				52
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48	46				46
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44	42				42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38				38
9	62	50	43	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35				35
10	59	47	39	35	58	46	39	34	45	39	34	44	38	34	43	38	34	32				32

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9960	9960	9960
5°	9848	9813	9722
10°	9785	9209	8769
15°	9674	8440	7544
20°	9545	7506	6159
25°	9355	6487	4917
30°	9155	5480	3837
35°	8946	4584	3222
40°	8730	3717	2869
45°	8504	3250	2567
50°	8253	2877	2346
55°	7970	2600	2177
60°	7696	2364	2031
65°	7330	2170	1910
70°	6791	2022	1800
75°	6017	1837	1706
80°	5128	1724	1582
85°	3543	1522	1435

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8504 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.2	6.1
10°-20°	121.6	15.3
20°-30°	149.9	18.8
30°-40°	143.8	18.1
40°-50°	124.0	15.6
50°-60°	96.2	12.1
60°-70°	65.9	8.3
70°-80°	35.8	4.5
80°-90°	9.8	1.2
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°	319.7	40.2
0°-40°	463.5	58.3
0°-60°	683.7	86.0
0°-90°	795.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	795.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	526	526	526	526	526	
5°	518	525	516	509	511	49
15°	493	478	430	395	385	139
25°	448	400	310	253	235	206
35°	387	307	198	148	139	242
45°	317	214	121	100	96	245
55°	241	128	79	68	66	216
65°	164	70	48	44	43	161
75°	82	32	25	24	23	88
85°	16	8	7	7	7	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	525.7	525.7	525.7	525.7	525.7
2.5°	520.0	528.8	522.6	522.6	523.9
5°	517.8	525.3	516.0	509.4	511.2
7.5°	513.8	519.1	500.7	486.6	486.1
10°	508.6	509.0	478.7	460.2	455.8
12.5°	502.0	494.9	456.3	428.6	422.0
15°	493.2	478.2	430.3	395.2	384.6
17.5°	483.9	461.1	402.6	358.7	344.2
20°	473.4	440.4	372.3	322.2	305.5
22.5°	461.5	420.7	342.0	287.0	269.4
25°	447.5	399.6	310.3	253.2	235.2
27.5°	433.8	378.0	280.0	223.3	204.8
30°	418.5	354.7	250.5	194.7	175.4
32.5°	403.1	331.0	223.3	167.5	153.0
35°	386.8	306.8	198.2	147.7	139.3
37.5°	370.1	283.1	174.5	134.5	127.0
40°	353.0	259.3	150.3	121.8	116.0
42.5°	335.4	236.0	133.6	111.2	105.9
45°	317.4	213.6	121.3	100.2	95.8
47.5°	298.0	191.2	109.4	91.0	87.0
50°	280.0	169.7	97.6	82.6	79.6
52.5°	260.7	148.6	87.9	75.2	72.5
55°	241.3	128.3	78.7	68.1	65.9
57.5°	222.4	109.0	69.9	61.5	59.8
60°	203.1	93.6	62.4	55.4	53.6
62.5°	183.3	81.3	55.4	49.7	47.9
65°	163.5	69.9	48.4	44.0	42.6
67.5°	142.9	58.9	42.2	38.7	37.8
70°	122.6	49.2	36.5	33.4	32.5
72.5°	102.9	40.0	30.8	28.6	27.7
75°	82.2	32.1	25.1	23.7	23.3
77.5°	64.2	25.1	20.2	19.3	18.9
80°	47.0	18.5	15.8	14.9	14.5
82.5°	31.2	12.7	11.4	11.0	10.5
85°	16.3	7.9	7.0	7.0	6.6
87.5°	5.3	3.5	3.5	3.5	3.1
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	17.59	19.06	17.96	19.38	19.69	12.40	13.87	12.76	14.18	14.49
	3H	19.92	21.24	20.30	21.57	21.93	14.05	15.36	14.42	15.69	16.05
	4H	20.82	22.05	21.22	22.40	22.78	14.68	15.92	15.08	16.27	16.64
	6H	21.48	22.62	21.90	22.99	23.38	15.17	16.31	15.59	16.68	17.07
	8H	21.69	22.77	22.12	23.16	23.57	15.34	16.43	15.77	16.82	17.22
	12H	21.81	22.84	22.24	23.23	23.66	15.46	16.50	15.89	16.88	17.31
4H	2H	17.61	18.85	18.01	19.19	19.57	13.12	14.35	13.52	14.70	15.08
	3H	20.02	21.05	20.43	21.45	21.85	14.96	15.99	15.38	16.39	16.79
	4H	20.95	21.88	21.39	22.29	22.73	15.71	16.63	16.14	17.05	17.49
	6H	21.73	22.53	22.19	22.98	23.44	16.32	17.13	16.78	17.57	18.03
	8H	22.00	22.75	22.47	23.20	23.66	16.54	17.29	17.00	17.73	18.20
	12H	22.18	22.85	22.66	23.33	23.80	16.70	17.37	17.18	17.85	18.32
8H	4H	20.95	21.70	21.41	22.14	22.61	16.09	16.84	16.55	17.28	17.75
	6H	21.75	22.37	22.25	22.86	23.34	16.83	17.44	17.32	17.94	18.41
	8H	22.06	22.61	22.57	23.12	23.61	17.12	17.67	17.64	18.18	18.67
	12H	22.29	22.78	22.80	23.27	23.83	17.36	17.85	17.87	18.34	18.91
12H	4H	20.93	21.60	21.41	22.07	22.55	16.15	16.81	16.63	17.29	17.77
	6H	21.73	22.28	22.25	22.80	23.28	16.91	17.47	17.43	17.98	18.47
	8H	22.06	22.55	22.57	23.05	23.61	17.27	17.75	17.78	18.25	18.81