

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: P1055316

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

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055316
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-H290D850-X4F0-XX-UDD-F-W
Description: DEFINE 2, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

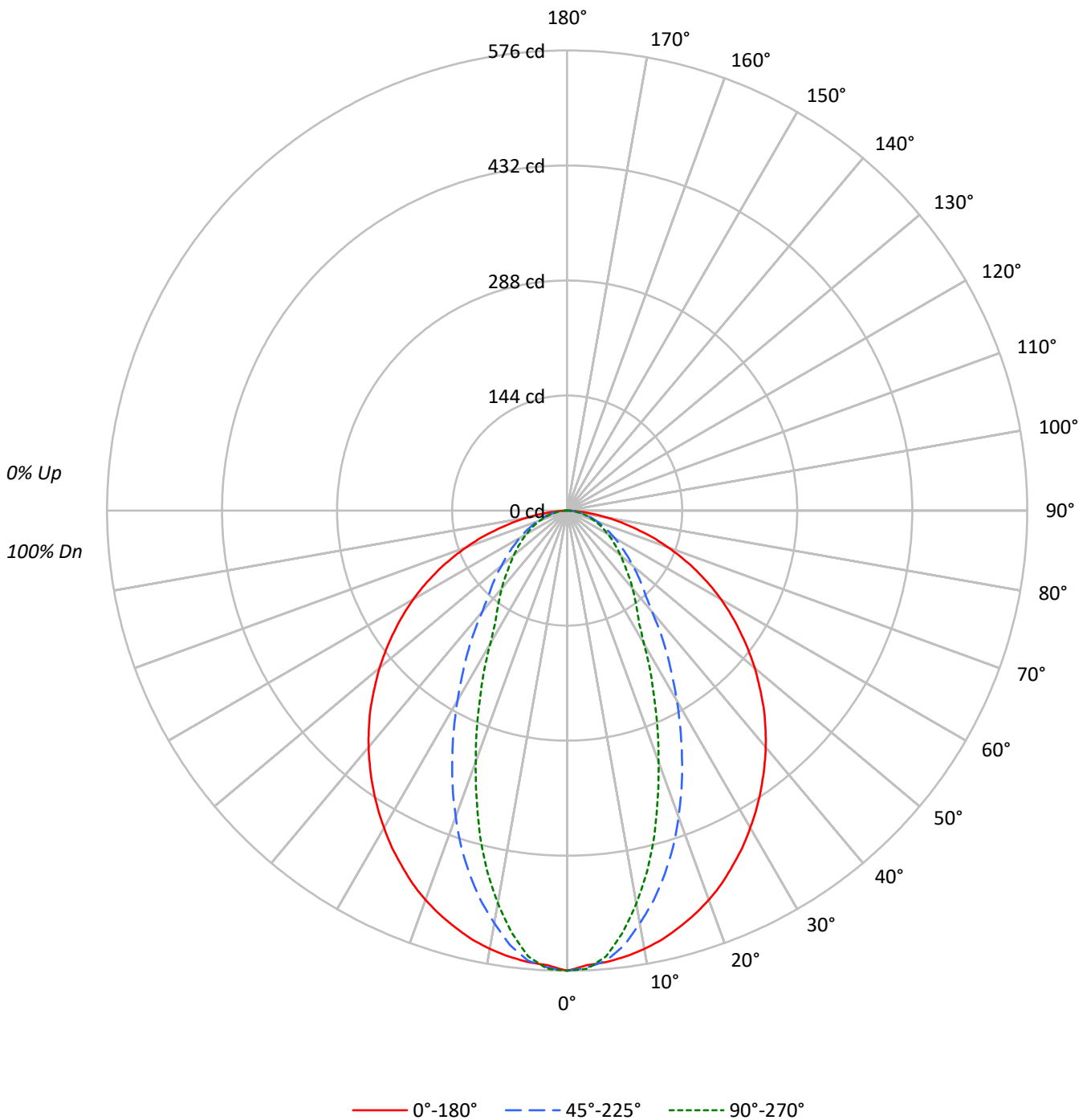
Lumens per Lamp: N/A
Luminaire Lumens: 871.1 lumens
Efficiency: N/A
Efficacy: 74.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.71 / 0.9
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	101	97	100	97	94	96	94	92	92	91	89	87
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66
4	87	76	69	63	85	75	68	62	73	66	61	71	65	61	68	64	60	58
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	54	52
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48	46
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44	42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38
9	62	50	43	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35
10	59	47	39	35	58	46	39	34	45	39	34	44	38	34	43	38	34	32

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10911	10911	10911
5°	10787	10751	10650
10°	10718	10088	9606
15°	10598	9246	8263
20°	10456	8222	6748
25°	10247	7108	5385
30°	10028	6005	4203
35°	9800	5024	3529
40°	9564	4073	3143
45°	9316	3561	2813
50°	9040	3151	2570
55°	8733	2847	2385
60°	8431	2592	2224
65°	8029	2376	2094
70°	7439	2216	1972
75°	6588	2006	1867
80°	5619	1888	1735
85°	3869	1674	1565

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9316 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.8	6.1
10°-20°	133.2	15.3
20°-30°	164.2	18.8
30°-40°	157.5	18.1
40°-50°	135.9	15.6
50°-60°	105.4	12.1
60°-70°	72.2	8.3
70°-80°	39.2	4.5
80°-90°	10.8	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°	350.2	40.2
0°-40°	507.7	58.3
0°-60°	749.0	86.0
0°-90°	871.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	871.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	576	576	576	576	576	
5°	567	575	565	558	560	54
15°	540	524	471	433	421	152
25°	490	438	340	277	258	226
35°	424	336	217	162	153	265
45°	348	234	133	110	105	268
55°	264	141	86	75	72	237
65°	179	77	53	48	47	177
75°	90	35	27	26	26	96
85°	18	9	8	8	7	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	575.9	575.9	575.9	575.9	575.9
2.5°	569.6	579.3	572.5	572.5	574.0
5°	567.2	575.4	565.3	558.1	560.0
7.5°	562.9	568.7	548.5	533.0	532.6
10°	557.1	557.6	524.4	504.2	499.3
12.5°	549.9	542.2	499.8	469.5	462.3
15°	540.3	523.9	471.4	432.9	421.3
17.5°	530.2	505.1	441.1	392.9	377.0
20°	518.6	482.5	407.8	353.0	334.7
22.5°	505.6	460.8	374.6	314.4	295.2
25°	490.2	437.7	340.0	277.4	257.6
27.5°	475.3	414.1	306.7	244.6	224.4
30°	458.4	388.6	274.5	213.3	192.1
32.5°	441.6	362.6	244.6	183.5	167.6
35°	423.7	336.1	217.2	161.8	152.6
37.5°	405.4	310.1	191.2	147.3	139.2
40°	386.7	284.1	164.7	133.4	127.1
42.5°	367.4	258.6	146.4	121.8	116.0
45°	347.7	234.0	132.9	109.8	105.0
47.5°	326.5	209.5	119.9	99.7	95.3
50°	306.7	185.9	106.9	90.5	87.2
52.5°	285.5	162.8	96.3	82.3	79.5
55°	264.4	140.6	86.2	74.6	72.2
57.5°	243.6	119.4	76.6	67.4	65.5
60°	222.5	102.6	68.4	60.7	58.7
62.5°	200.8	89.1	60.7	54.4	52.5
65°	179.1	76.6	53.0	48.2	46.7
67.5°	156.5	64.5	46.2	42.4	41.4
70°	134.3	53.9	40.0	36.6	35.6
72.5°	112.7	43.8	33.7	31.3	30.3
75°	90.0	35.2	27.4	26.0	25.5
77.5°	70.3	27.4	22.1	21.2	20.7
80°	51.5	20.2	17.3	16.4	15.9
82.5°	34.2	14.0	12.5	12.0	11.6
85°	17.8	8.7	7.7	7.7	7.2
87.5°	5.8	3.9	3.9	3.9	3.4
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	17.91	19.38	18.28	19.69	20.01	12.72	14.18	13.08	14.50	14.81
	3H	20.24	21.56	20.62	21.88	22.25	14.36	15.68	14.74	16.01	16.37
	4H	21.14	22.37	21.54	22.72	23.10	15.00	16.23	15.40	16.58	16.96
	6H	21.80	22.94	22.21	23.31	23.70	15.49	16.63	15.91	17.00	17.39
	8H	22.01	23.09	22.43	23.48	23.88	15.66	16.75	16.09	17.14	17.54
	12H	22.12	23.16	22.55	23.54	23.97	15.78	16.82	16.21	17.20	17.63
4H	2H	17.93	19.16	18.33	19.51	19.89	13.43	14.67	13.83	15.02	15.40
	3H	20.34	21.36	20.75	21.76	22.17	15.28	16.31	15.69	16.71	17.11
	4H	21.27	22.19	21.70	22.61	23.05	16.03	16.95	16.46	17.37	17.81
	6H	22.05	22.85	22.50	23.29	23.75	16.64	17.45	17.10	17.89	18.35
	8H	22.32	23.07	22.78	23.51	23.98	16.86	17.61	17.32	18.05	18.52
	12H	22.49	23.16	22.98	23.64	24.11	17.02	17.69	17.50	18.17	18.64
8H	4H	21.26	22.01	21.73	22.46	22.92	16.41	17.15	16.87	17.60	18.07
	6H	22.07	22.69	22.57	23.18	23.66	17.14	17.76	17.64	18.25	18.73
	8H	22.37	22.92	22.89	23.44	23.92	17.44	17.99	17.96	18.50	18.99
	12H	22.60	23.09	23.11	23.58	24.15	17.68	18.17	18.19	18.66	19.23
12H	4H	21.24	21.91	21.73	22.39	22.86	16.46	17.13	16.95	17.61	18.08
	6H	22.04	22.60	22.56	23.11	23.60	17.23	17.78	17.74	18.30	18.78
	8H	22.38	22.87	22.89	23.36	23.93	17.59	18.07	18.10	18.57	19.13