

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: P1055322

Luminaire Tested: S122R3DR-H290D930-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055322  
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-H290D930-X4F0-XX-UDD-F-W  
Description: DEFINE 2, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

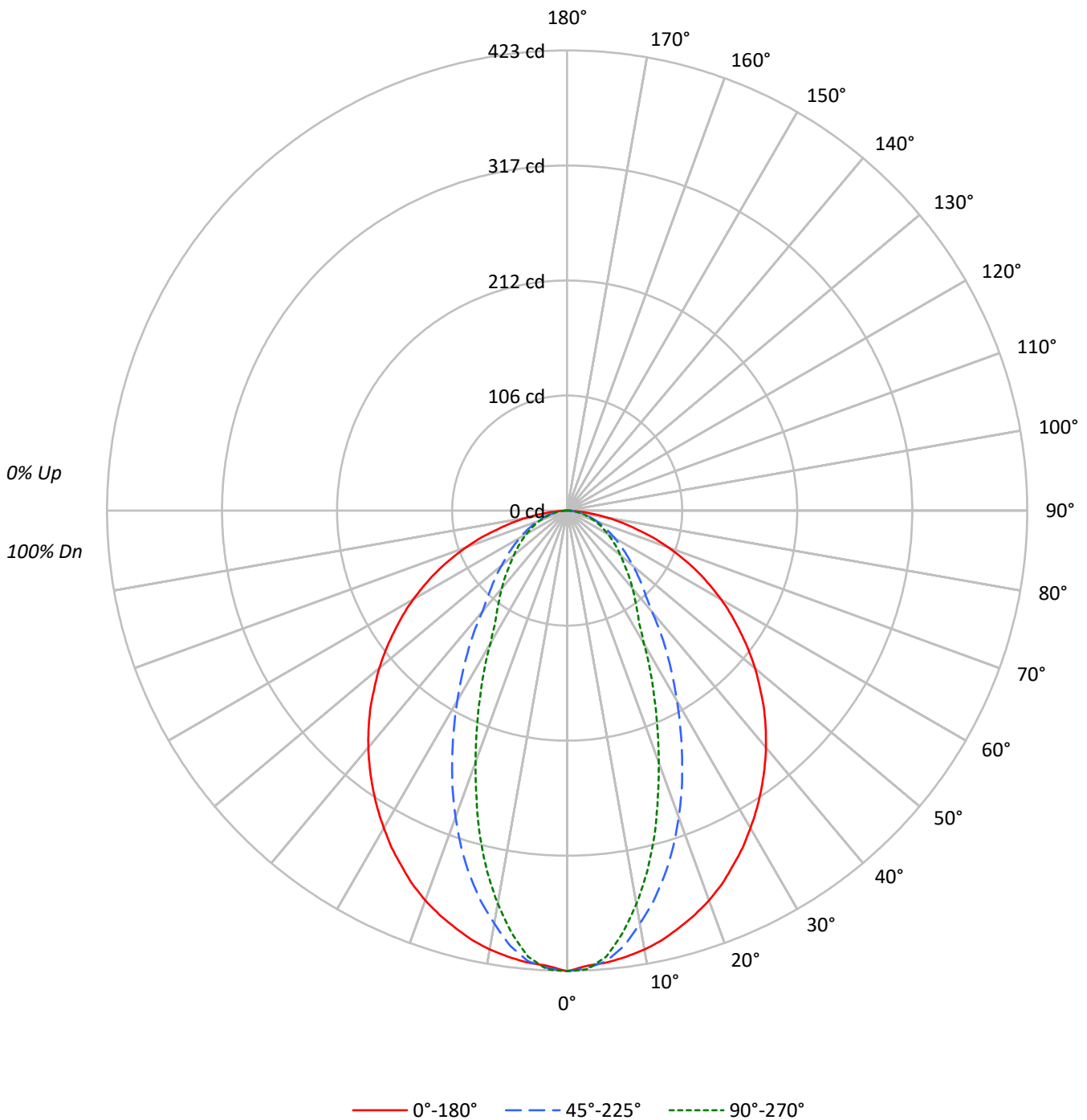
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 640.4 lumens  
Efficiency: N/A  
Efficacy: 54.7 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 (A<sub>in</sub>): 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°	8022	8022	8022
5°	7931	7904	7830
10°	7880	7416	7062
15°	7791	6798	6075
20°	7688	6044	4960
25°	7534	5224	3959
30°	7372	4415	3089
35°	7205	3694	2595
40°	7031	2995	2312
45°	6848	2618	2068
50°	6647	2317	1889
55°	6418	2094	1754
60°	6195	1906	1637
65°	5904	1744	1538
70°	5473	1629	1451
75°	4846	1479	1376
80°	4135	1386	1277
85°	2848	1239	1152

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6848 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.8	6.1
10°-20°	97.9	15.3
20°-30°	120.7	18.8
30°-40°	115.8	18.1
40°-50°	99.9	15.6
50°-60°	77.5	12.1
60°-70°	53.1	8.3
70°-80°	28.8	4.5
80°-90°	7.9	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°	257.4	40.2
0°-40°	373.3	58.3
0°-60°	550.6	86.0
0°-90°	640.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	640.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	423	423	423	423	423	
5°	417	423	416	410	412	40
15°	397	385	347	318	310	112
25°	360	322	250	204	189	166
35°	312	247	160	119	112	195
45°	256	172	98	81	77	197
55°	194	103	63	55	53	174
65°	132	56	39	35	34	130
75°	66	26	20	19	19	71
85°	13	6	6	6	5	17
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	423.4	423.4	423.4	423.4	423.4
2.5°	418.8	425.9	420.9	420.9	422.0
5°	417.0	423.0	415.6	410.3	411.7
7.5°	413.8	418.1	403.2	391.9	391.5
10°	409.6	409.9	385.5	370.6	367.1
12.5°	404.3	398.6	367.4	345.1	339.8
15°	397.2	385.1	346.6	318.2	309.7
17.5°	389.7	371.3	324.3	288.9	277.2
20°	381.3	354.7	299.8	259.5	246.0
22.5°	371.7	338.8	275.4	231.2	217.0
25°	360.4	321.8	249.9	203.9	189.4
27.5°	349.4	304.4	225.5	179.8	165.0
30°	337.0	285.7	201.8	156.8	141.2
32.5°	324.6	266.6	179.8	134.9	123.2
35°	311.5	247.1	159.7	118.9	112.2
37.5°	298.1	228.0	140.5	108.3	102.3
40°	284.3	208.9	121.1	98.1	93.5
42.5°	270.1	190.1	107.6	89.6	85.3
45°	255.6	172.0	97.7	80.7	77.2
47.5°	240.0	154.0	88.1	73.3	70.1
50°	225.5	136.6	78.6	66.6	64.1
52.5°	209.9	119.7	70.8	60.5	58.4
55°	194.3	103.4	63.4	54.9	53.1
57.5°	179.1	87.8	56.3	49.6	48.1
60°	163.5	75.4	50.3	44.6	43.2
62.5°	147.6	65.5	44.6	40.0	38.6
65°	131.7	56.3	38.9	35.4	34.3
67.5°	115.0	47.4	34.0	31.2	30.4
70°	98.8	39.6	29.4	26.9	26.2
72.5°	82.8	32.2	24.8	23.0	22.3
75°	66.2	25.8	20.2	19.1	18.8
77.5°	51.7	20.2	16.3	15.6	15.2
80°	37.9	14.9	12.7	12.0	11.7
82.5°	25.1	10.3	9.2	8.8	8.5
85°	13.1	6.4	5.7	5.7	5.3
87.5°	4.2	2.8	2.8	2.8	2.5
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	16.84	18.31	17.21	18.62	18.94	11.65	13.12	12.02	13.43	13.75
	3H	19.17	20.49	19.55	20.82	21.18	13.30	14.61	13.68	14.94	15.31
	4H	20.07	21.30	20.47	21.65	22.03	13.93	15.17	14.33	15.52	15.90
	6H	20.73	21.87	21.14	22.24	22.63	14.43	15.57	14.84	15.93	16.33
	8H	20.94	22.02	21.36	22.41	22.81	14.60	15.68	15.02	16.07	16.47
	12H	21.05	22.09	21.48	22.47	22.90	14.71	15.75	15.14	16.13	16.56
4H	2H	16.86	18.09	17.26	18.44	18.82	12.36	13.60	12.77	13.95	14.33
	3H	19.27	20.29	19.68	20.70	21.10	14.21	15.24	14.62	15.64	16.04
	4H	20.20	21.12	20.63	21.54	21.98	14.96	15.88	15.39	16.30	16.74
	6H	20.98	21.78	21.44	22.22	22.68	15.57	16.38	16.03	16.82	17.28
	8H	21.25	22.00	21.71	22.44	22.91	15.79	16.54	16.25	16.98	17.45
	12H	21.43	22.09	21.91	22.57	23.04	15.95	16.62	16.43	17.10	17.57
8H	4H	20.19	20.94	20.66	21.39	21.85	15.34	16.09	15.80	16.53	17.00
	6H	21.00	21.62	21.50	22.11	22.59	16.08	16.69	16.57	17.19	17.66
	8H	21.30	21.86	21.82	22.37	22.86	16.37	16.92	16.88	17.43	17.92
	12H	21.53	22.02	22.04	22.52	23.08	16.61	17.10	17.12	17.59	18.16
12H	4H	20.17	20.84	20.66	21.32	21.79	15.40	16.06	15.88	16.54	17.02
	6H	20.98	21.53	21.49	22.04	22.53	16.16	16.72	16.68	17.23	17.72
	8H	21.31	21.80	21.82	22.29	22.86	16.52	17.00	17.03	17.50	18.06