

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: P1055392

Luminaire Tested: S122R3DR-H865D840-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055392  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-2)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122R3DR-H865D840-X4F0-XX-UDD-F-B  
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

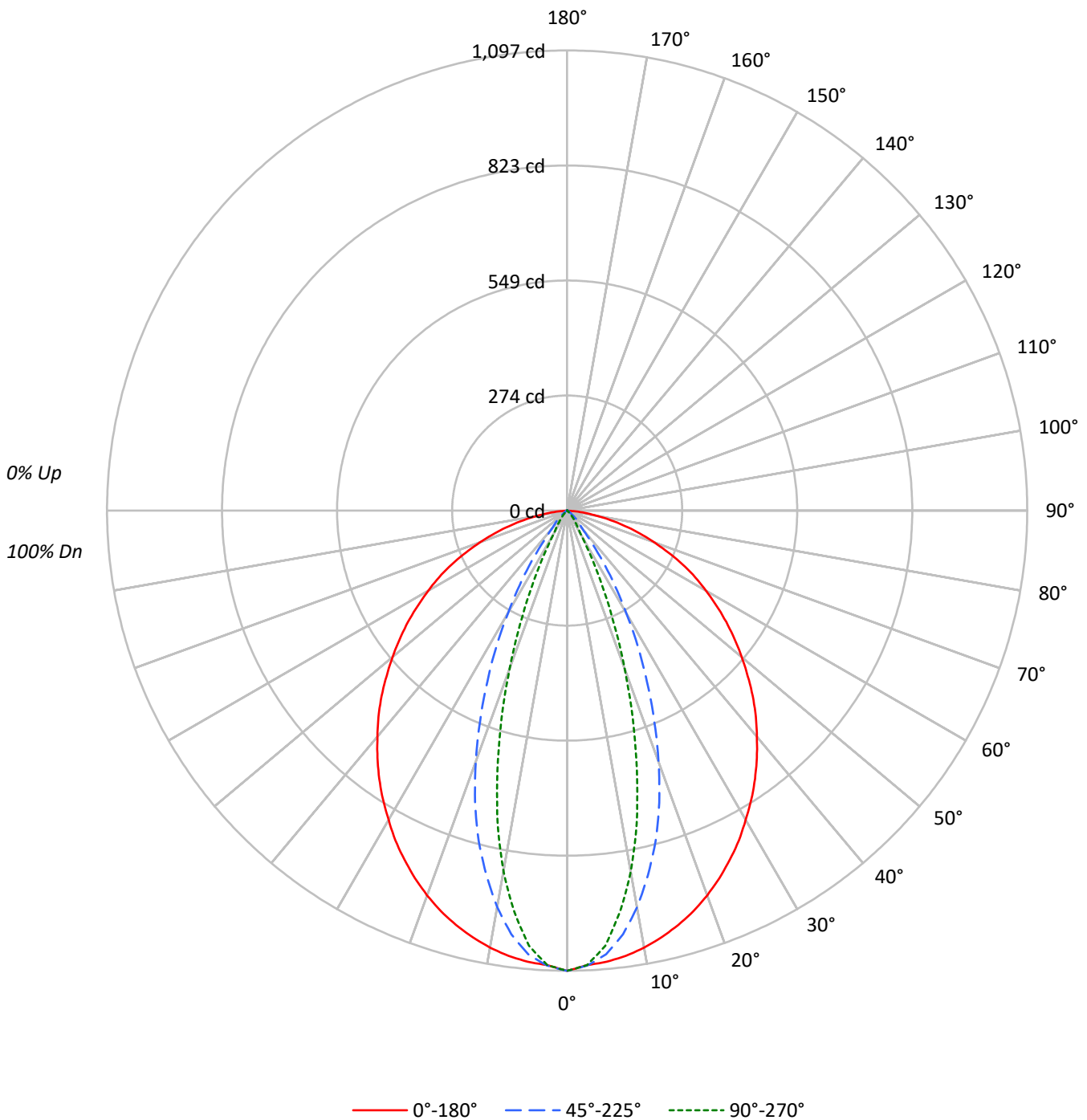
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 998.3 lumens  
Efficiency: N/A  
Efficacy: 32.3 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 0.56 / 0.7  
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 30.9  
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	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	109	106	103	110	106	104	101	102	100	98	99	97	95	95	94	92	91					91			
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	83	81					81			
3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	82	78	75	74					74			
4	92	83	77	72	90	82	76	71	80	75	70	78	73	70	76	72	69	67					67			
5	87	77	70	65	85	76	70	65	74	69	64	72	68	64	71	66	63	61					61			
6	82	72	65	60	80	71	64	59	69	63	59	68	62	59	66	62	58	56					56			
7	77	67	60	55	76	66	59	55	65	59	55	63	58	54	62	57	54	52					52			
8	73	62	56	51	72	62	55	51	61	55	51	60	54	50	59	54	50	49					49			
9	70	59	52	48	68	58	52	47	57	51	47	56	51	47	55	50	47	45					45			
10	66	55	49	45	65	55	49	44	54	48	44	53	48	44	52	47	44	43					43			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	20787	20787	20787
5°	20532	20195	19811
10°	20356	18465	16814
15°	20061	15980	12590
20°	19680	12841	8061
25°	19192	9411	4139
30°	18624	6152	1352
35°	18057	3414	789
40°	17404	1373	438
45°	16759	914	169
50°	16022	522	74
55°	15290	251	43
60°	14478	95	0
65°	13624	58	0
70°	12225	72	0
75°	10526	95	0
80°	7976	0	0
85°	3282	283	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 16759 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.4	9.9
10°-20°	228.5	22.9
20°-30°	232.0	23.2
30°-40°	174.1	17.4
40°-50°	121.9	12.2
50°-60°	74.6	7.5
60°-70°	44.5	4.5
70°-80°	20.5	2.1
80°-90°	3.7	0.4
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°	559.0	56.0
0°-40°	733.1	73.4
0°-60°	929.6	93.1
0°-90°	998.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	998.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1097	1097	1097	1097	1097	
5°	1080	1090	1062	1042	1042	102
15°	1023	967	815	690	642	288
25°	918	757	450	257	198	423
35°	781	508	148	44	34	488
45°	626	269	34	10	6	482
55°	463	82	8	2	1	414
65°	304	24	1	1	0	299
75°	144	2	1	1	0	153
85°	15	0	1	1	0	26
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1097.2	1097.2	1097.2	1097.2	1097.2
2.5°	1084.6	1101.0	1085.9	1083.3	1084.6
5°	1079.6	1089.7	1061.9	1041.7	1041.7
7.5°	1070.7	1070.7	1019.0	977.4	964.8
10°	1058.1	1044.3	959.8	892.9	874.0
12.5°	1041.7	1008.9	890.4	795.8	765.5
15°	1022.8	967.3	814.7	689.9	641.9
17.5°	1001.4	920.7	730.2	575.1	519.6
20°	976.1	870.2	636.9	457.8	399.8
22.5°	948.4	814.7	542.3	353.1	291.3
25°	918.1	756.7	450.2	257.3	198.0
27.5°	886.6	696.2	365.7	176.6	121.1
30°	851.3	633.1	281.2	104.7	61.8
32.5°	817.2	572.6	210.6	56.8	45.4
35°	780.7	508.3	147.6	44.1	34.1
37.5°	742.8	447.7	90.8	32.8	25.2
40°	703.7	385.9	55.5	24.0	17.7
42.5°	665.9	327.9	44.1	16.4	11.4
45°	625.5	268.6	34.1	10.1	6.3
47.5°	583.9	214.4	25.2	6.3	3.8
50°	543.6	166.5	17.7	3.8	2.5
52.5°	503.2	122.3	11.4	2.5	1.3
55°	462.9	82.0	7.6	2.5	1.3
57.5°	422.5	58.0	5.0	1.3	1.3
60°	382.1	45.4	2.5	1.3	0.0
62.5°	344.3	35.3	2.5	1.3	1.3
65°	303.9	24.0	1.3	1.3	0.0
67.5°	261.1	15.1	1.3	1.3	0.0
70°	220.7	8.8	1.3	1.3	0.0
72.5°	181.6	5.0	1.3	1.3	0.0
75°	143.8	2.5	1.3	1.3	0.0
77.5°	107.2	1.3	0.0	1.3	0.0
80°	73.1	0.0	0.0	1.3	0.0
82.5°	42.9	0.0	0.0	1.3	0.0
85°	15.1	0.0	1.3	1.3	0.0
87.5°	0.0	0.0	1.3	1.3	0.0
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	16.75	18.01	17.12	18.33	18.64	0.00	0.00	0.00	0.00	0.00
	3H	20.49	21.61	20.88	21.94	22.31	0.00	0.00	0.00	0.00	0.00
	4H	21.81	22.85	22.21	23.20	23.58	0.00	0.00	0.00	0.00	0.00
	6H	22.66	23.62	23.08	23.99	24.38	0.00	0.00	0.00	0.00	0.00
	8H	22.87	23.78	23.30	24.17	24.57	0.00	0.00	0.00	0.00	0.00
	12H	22.94	23.80	23.37	24.18	24.62	0.00	0.00	0.00	0.00	0.00
4H	2H	16.51	17.55	16.91	17.90	18.28	0.00	0.00	0.00	0.00	0.00
	3H	20.25	21.10	20.66	21.51	21.91	0.00	0.00	0.00	0.00	0.00
	4H	21.54	22.31	21.98	22.73	23.17	0.00	0.00	0.00	0.00	0.00
	6H	22.46	23.12	22.93	23.57	24.03	0.00	0.00	0.00	0.00	0.00
	8H	22.72	23.33	23.19	23.78	24.25	0.00	0.00	0.00	0.00	0.00
	12H	22.82	23.36	23.31	23.85	24.32	0.00	0.00	0.00	0.00	0.00
8H	4H	21.40	22.01	21.87	22.46	22.93	0.00	0.00	0.00	0.00	0.00
	6H	22.30	22.80	22.80	23.29	23.78	0.00	0.00	0.00	0.00	0.00
	8H	22.56	23.00	23.08	23.52	24.01	0.00	0.00	0.00	0.00	0.00
	12H	22.68	23.06	23.19	23.56	24.13	0.00	0.00	0.00	0.00	0.00
12H	4H	21.35	21.89	21.84	22.37	22.85	0.00	0.00	0.00	0.00	0.00
	6H	22.24	22.68	22.76	23.20	23.69	0.00	0.00	0.00	0.00	0.00
	8H	22.51	22.90	23.03	23.40	23.97	0.00	0.00	0.00	0.00	0.00