

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055407

Luminaire Tested: S122R3DR-H865D940-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055407  
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-H865D940-X4F0-XX-UDD-FLL-B  
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

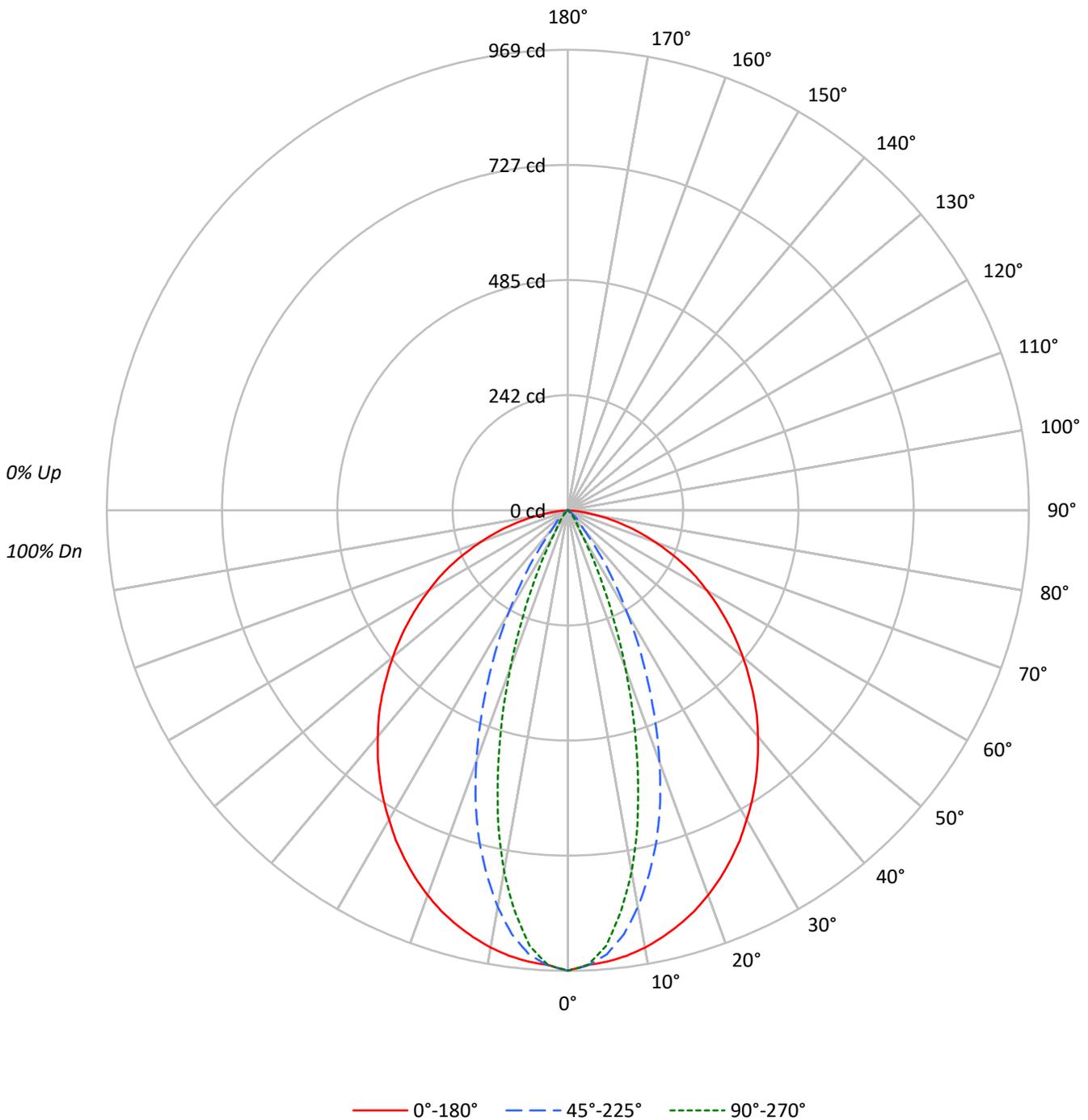
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 881.4 lumens  
Efficiency: N/A  
Efficacy: 28.5 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°	18355	18355	18355
5°	18130	17833	17493
10°	17974	16304	14846
15°	17714	14110	11117
20°	17377	11339	7117
25°	16947	8312	3654
30°	16445	5432	1194
35°	15943	3014	696
40°	15368	1212	386
45°	14801	806	150
50°	14148	460	65
55°	13500	221	36
60°	12785	83	0
65°	12032	49	0
70°	10796	61	0
75°	9297	81	0
80°	7048	0	0
85°	2913	239	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14801 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.9	9.9
10°-20°	201.8	22.9
20°-30°	204.9	23.2
30°-40°	153.7	17.4
40°-50°	107.7	12.2
50°-60°	65.9	7.5
60°-70°	39.2	4.5
70°-80°	18.1	2.1
80°-90°	3.3	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°	493.6	56.0
0°-40°	647.3	73.4
0°-60°	820.8	93.1
0°-90°	881.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	881.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	969	969	969	969	969	
5°	953	962	938	920	920	90
15°	903	854	719	609	567	254
25°	811	668	398	227	175	373
35°	689	449	130	39	30	431
45°	552	237	30	9	6	426
55°	409	72	7	2	1	365
65°	268	21	1	1	0	264
75°	127	2	1	1	0	135
85°	13	0	1	1	0	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	968.8	968.8	968.8	968.8	968.8
2.5°	957.7	972.2	958.8	956.6	957.7
5°	953.3	962.2	937.7	919.8	919.8
7.5°	945.5	945.5	899.8	863.1	851.9
10°	934.3	922.1	847.5	788.4	771.7
12.5°	919.8	890.9	786.2	702.7	676.0
15°	903.1	854.1	719.4	609.1	566.8
17.5°	884.2	812.9	644.8	507.8	458.8
20°	861.9	768.4	562.4	404.2	353.0
22.5°	837.4	719.4	478.9	311.8	257.2
25°	810.7	668.2	397.6	227.2	174.8
27.5°	782.9	614.7	322.9	155.9	106.9
30°	751.7	559.0	248.3	92.4	54.6
32.5°	721.6	505.6	186.0	50.1	40.1
35°	689.3	448.8	130.3	39.0	30.1
37.5°	655.9	395.3	80.2	29.0	22.3
40°	621.4	340.8	49.0	21.2	15.6
42.5°	588.0	289.5	39.0	14.5	10.0
45°	552.4	237.2	30.1	8.9	5.6
47.5°	515.6	189.3	22.3	5.6	3.3
50°	480.0	147.0	15.6	3.3	2.2
52.5°	444.3	108.0	10.0	2.2	1.1
55°	408.7	72.4	6.7	2.2	1.1
57.5°	373.1	51.2	4.5	1.1	1.1
60°	337.4	40.1	2.2	1.1	0.0
62.5°	304.0	31.2	2.2	1.1	1.1
65°	268.4	21.2	1.1	1.1	0.0
67.5°	230.5	13.4	1.1	1.1	0.0
70°	194.9	7.8	1.1	1.1	0.0
72.5°	160.4	4.5	1.1	1.1	0.0
75°	127.0	2.2	1.1	1.1	0.0
77.5°	94.7	1.1	0.0	1.1	0.0
80°	64.6	0.0	0.0	1.1	0.0
82.5°	37.9	0.0	0.0	1.1	0.0
85°	13.4	0.0	1.1	1.1	0.0
87.5°	0.0	0.0	1.1	1.1	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	16.32	17.58	16.69	17.89	18.21	0.00	0.00	0.00	0.00	0.00
	3H	20.06	21.18	20.44	21.51	21.88	0.00	0.00	0.00	0.00	0.00
	4H	21.37	22.42	21.78	22.77	23.15	0.00	0.00	0.00	0.00	0.00
	6H	22.23	23.19	22.65	23.56	23.95	0.00	0.00	0.00	0.00	0.00
	8H	22.44	23.35	22.87	23.74	24.14	0.00	0.00	0.00	0.00	0.00
	12H	22.51	23.37	22.94	23.75	24.19	0.00	0.00	0.00	0.00	0.00
4H	2H	16.07	17.12	16.48	17.47	17.85	0.00	0.00	0.00	0.00	0.00
	3H	19.82	20.67	20.23	21.07	21.48	0.00	0.00	0.00	0.00	0.00
	4H	21.11	21.88	21.55	22.30	22.74	0.00	0.00	0.00	0.00	0.00
	6H	22.03	22.69	22.50	23.14	23.60	0.00	0.00	0.00	0.00	0.00
	8H	22.29	22.90	22.76	23.35	23.82	0.00	0.00	0.00	0.00	0.00
	12H	22.39	22.93	22.88	23.42	23.89	0.00	0.00	0.00	0.00	0.00
8H	4H	20.97	21.58	21.44	22.03	22.50	0.00	0.00	0.00	0.00	0.00
	6H	21.87	22.37	22.37	22.86	23.35	0.00	0.00	0.00	0.00	0.00
	8H	22.13	22.57	22.65	23.09	23.58	0.00	0.00	0.00	0.00	0.00
	12H	22.25	22.63	22.76	23.13	23.70	0.00	0.00	0.00	0.00	0.00
12H	4H	20.92	21.46	21.41	21.94	22.42	0.00	0.00	0.00	0.00	0.00
	6H	21.81	22.25	22.33	22.77	23.26	0.00	0.00	0.00	0.00	0.00
	8H	22.08	22.47	22.60	22.97	23.54	0.00	0.00	0.00	0.00	0.00