

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: P1055179

Luminaire Tested: S122R3DR-S290D850-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055179  
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-S290D850-X4F0-XX-UDD-F-B  
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

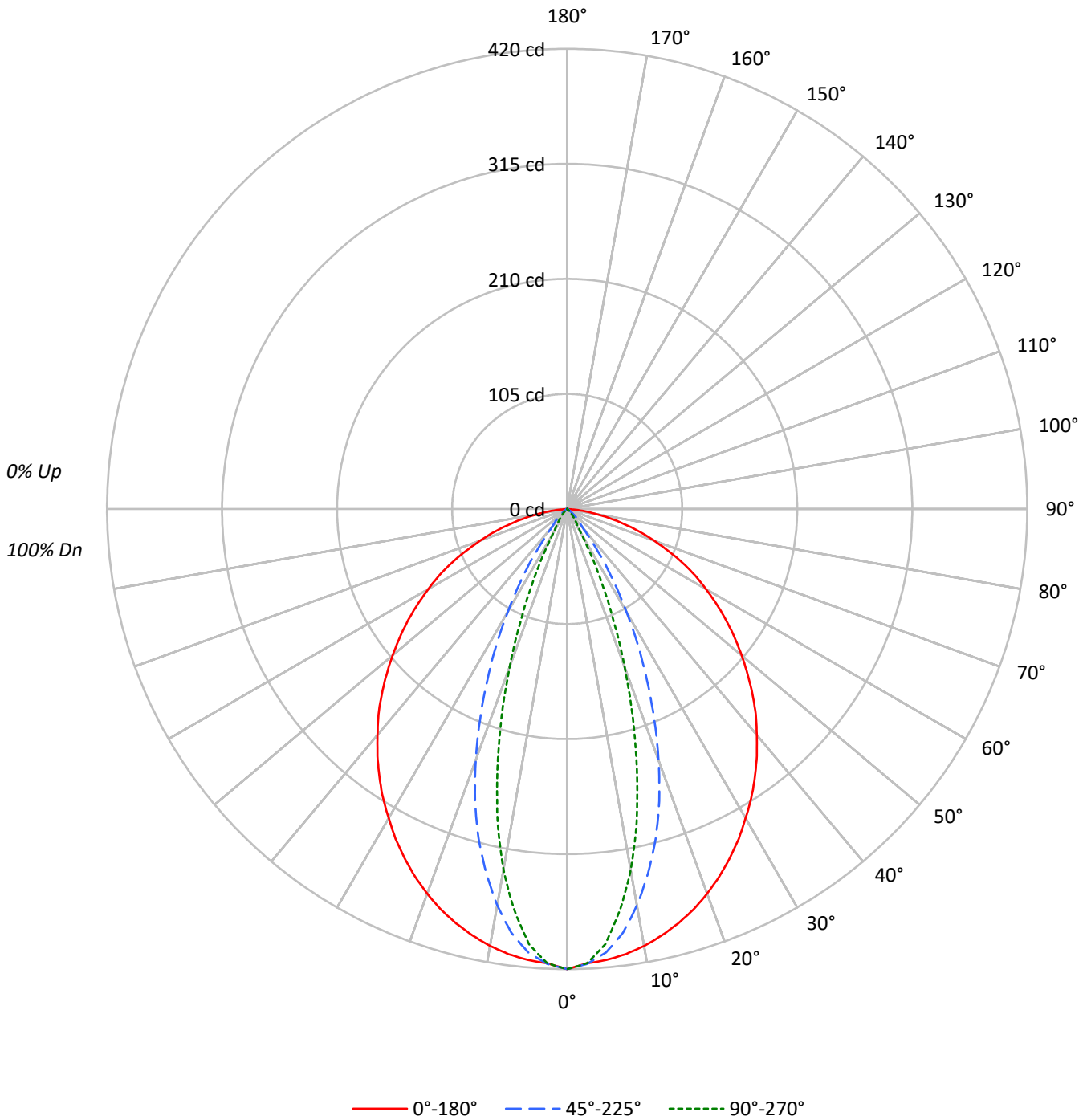
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 382.1 lumens  
Efficiency: N/A  
Efficacy: 30.3 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): 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	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°	7957	7957	7957
5°	7858	7729	7583
10°	7791	7066	6435
15°	7679	6116	4819
20°	7532	4915	3085
25°	7346	3602	1585
30°	7127	2354	518
35°	6911	1307	301
40°	6660	524	168
45°	6414	348	64
50°	6131	200	29
55°	5853	96	17
60°	5544	38	0
65°	5214	22	0
70°	4681	28	0
75°	4026	37	0
80°	3055	0	0
85°	1261	109	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6414 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	37.6	9.9
10°-20°	87.5	22.9
20°-30°	88.8	23.2
30°-40°	66.6	17.4
40°-50°	46.7	12.2
50°-60°	28.6	7.5
60°-70°	17.0	4.5
70°-80°	7.9	2.1
80°-90°	1.4	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°	213.9	56.0
0°-40°	280.6	73.4
0°-60°	355.8	93.1
0°-90°	382.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	382.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	420	420	420	420	420	
5°	413	417	406	399	399	39
15°	392	370	312	264	246	110
25°	351	290	172	98	76	162
35°	299	194	56	17	13	187
45°	239	103	13	4	2	185
55°	177	31	3	1	0	158
65°	116	9	0	0	0	115
75°	55	1	0	0	0	58
85°	6	0	0	0	0	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	420.0	420.0	420.0	420.0	420.0
2.5°	415.1	421.4	415.6	414.6	415.1
5°	413.2	417.1	406.4	398.7	398.7
7.5°	409.8	409.8	390.0	374.1	369.3
10°	405.0	399.7	367.3	341.8	334.5
12.5°	398.7	386.2	340.8	304.6	293.0
15°	391.5	370.2	311.8	264.0	245.7
17.5°	383.3	352.4	279.5	220.1	198.9
20°	373.6	333.1	243.8	175.2	153.0
22.5°	363.0	311.8	207.6	135.2	111.5
25°	351.4	289.6	172.3	98.5	75.8
27.5°	339.3	266.5	140.0	67.6	46.3
30°	325.8	242.3	107.6	40.1	23.7
32.5°	312.8	219.1	80.6	21.7	17.4
35°	298.8	194.5	56.5	16.9	13.0
37.5°	284.3	171.4	34.8	12.6	9.7
40°	269.3	147.7	21.2	9.2	6.8
42.5°	254.9	125.5	16.9	6.3	4.3
45°	239.4	102.8	13.0	3.9	2.4
47.5°	223.5	82.1	9.7	2.4	1.4
50°	208.0	63.7	6.8	1.4	1.0
52.5°	192.6	46.8	4.3	1.0	0.5
55°	177.2	31.4	2.9	1.0	0.5
57.5°	161.7	22.2	1.9	0.5	0.5
60°	146.3	17.4	1.0	0.5	0.0
62.5°	131.8	13.5	1.0	0.5	0.5
65°	116.3	9.2	0.5	0.5	0.0
67.5°	99.9	5.8	0.5	0.5	0.0
70°	84.5	3.4	0.5	0.5	0.0
72.5°	69.5	1.9	0.5	0.5	0.0
75°	55.0	1.0	0.5	0.5	0.0
77.5°	41.0	0.5	0.0	0.5	0.0
80°	28.0	0.0	0.0	0.5	0.0
82.5°	16.4	0.0	0.0	0.5	0.0
85°	5.8	0.0	0.5	0.5	0.0
87.5°	0.0	0.0	0.5	0.5	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	13.42	14.68	13.78	14.99	15.30	0.00	0.00	0.00	0.00	0.00
	3H	17.16	18.28	17.54	18.61	18.97	0.00	0.00	0.00	0.00	0.00
	4H	18.47	19.51	18.87	19.86	20.24	0.00	0.00	0.00	0.00	0.00
	6H	19.32	20.28	19.74	20.65	21.04	0.00	0.00	0.00	0.00	0.00
	8H	19.54	20.44	19.97	20.83	21.24	0.00	0.00	0.00	0.00	0.00
	12H	19.60	20.46	20.03	20.85	21.28	0.00	0.00	0.00	0.00	0.00
4H	2H	13.17	14.21	13.57	14.56	14.95	0.00	0.00	0.00	0.00	0.00
	3H	16.91	17.77	17.33	18.17	18.57	0.00	0.00	0.00	0.00	0.00
	4H	18.21	18.97	18.64	19.39	19.83	0.00	0.00	0.00	0.00	0.00
	6H	19.13	19.78	19.59	20.23	20.70	0.00	0.00	0.00	0.00	0.00
	8H	19.38	20.00	19.85	20.44	20.92	0.00	0.00	0.00	0.00	0.00
	12H	19.49	20.02	19.97	20.51	20.98	0.00	0.00	0.00	0.00	0.00
8H	4H	18.06	18.67	18.53	19.12	19.59	0.00	0.00	0.00	0.00	0.00
	6H	18.96	19.46	19.47	19.96	20.44	0.00	0.00	0.00	0.00	0.00
	8H	19.22	19.66	19.74	20.18	20.67	0.00	0.00	0.00	0.00	0.00
	12H	19.34	19.73	19.85	20.22	20.80	0.00	0.00	0.00	0.00	0.00
12H	4H	18.01	18.55	18.50	19.04	19.51	0.00	0.00	0.00	0.00	0.00
	6H	18.90	19.34	19.42	19.86	20.35	0.00	0.00	0.00	0.00	0.00
	8H	19.18	19.57	19.69	20.06	20.63	0.00	0.00	0.00	0.00	0.00