

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: P1055313

Luminaire Tested: S122R3DR-H290D840-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055313  
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-H290D840-X4F0-XX-UDD-F-W  
Description: DEFINE 2, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

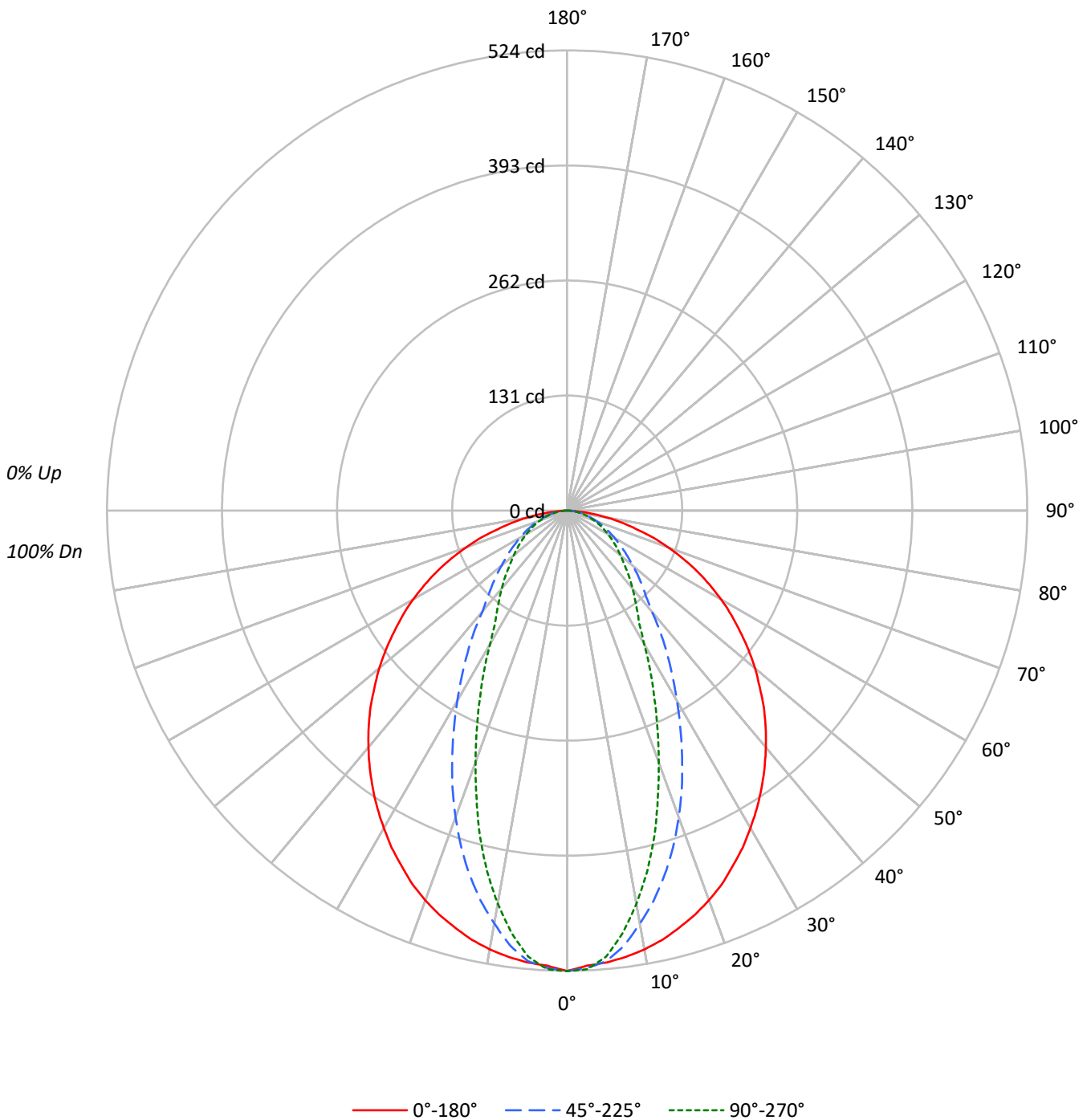
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 793.2 lumens  
Efficiency: N/A  
Efficacy: 67.8 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°	9935	9935	9935
5°	9823	9791	9697
10°	9759	9186	8748
15°	9650	8420	7526
20°	9520	7488	6143
25°	9332	6472	4904
30°	9131	5467	3828
35°	8925	4575	3215
40°	8708	3710	2864
45°	8483	3242	2561
50°	8232	2868	2340
55°	7951	2593	2173
60°	7677	2361	2027
65°	7312	2161	1905
70°	6775	2016	1795
75°	6002	1830	1698
80°	5117	1724	1582
85°	3522	1522	1435

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8483 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	48.1	6.1
10°-20°	121.3	15.3
20°-30°	149.5	18.8
30°-40°	143.4	18.1
40°-50°	123.7	15.6
50°-60°	96.0	12.1
60°-70°	65.7	8.3
70°-80°	35.7	4.5
80°-90°	9.8	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°	318.9	40.2
0°-40°	462.3	58.3
0°-60°	682.0	86.0
0°-90°	793.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	793.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	524	524	524	524	524	
5°	516	524	515	508	510	49
15°	492	477	429	394	384	139
25°	446	399	310	253	235	206
35°	386	306	198	147	139	241
45°	317	213	121	100	96	244
55°	241	128	78	68	66	215
65°	163	70	48	44	42	161
75°	82	32	25	24	23	88
85°	16	8	7	7	7	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	524.4	524.4	524.4	524.4	524.4
2.5°	518.7	527.5	521.3	521.3	522.7
5°	516.5	524.0	514.8	508.2	509.9
7.5°	512.6	517.8	499.4	485.4	485.0
10°	507.3	507.8	477.5	459.1	454.7
12.5°	500.7	493.7	455.1	427.5	420.9
15°	492.0	477.1	429.3	394.2	383.7
17.5°	482.8	460.0	401.6	357.8	343.3
20°	472.2	439.4	371.4	321.4	304.7
22.5°	460.4	419.6	341.1	286.3	268.8
25°	446.4	398.6	309.6	252.6	234.6
27.5°	432.8	377.1	279.3	222.7	204.3
30°	417.4	353.8	249.9	194.2	175.0
32.5°	402.1	330.2	222.7	167.1	152.6
35°	385.9	306.1	197.8	147.3	139.0
37.5°	369.2	282.4	174.1	134.2	126.7
40°	352.1	258.7	150.0	121.5	115.8
42.5°	334.6	235.5	133.3	110.9	105.7
45°	316.6	213.1	121.0	100.0	95.6
47.5°	297.3	190.7	109.2	90.8	86.8
50°	279.3	169.3	97.3	82.4	79.4
52.5°	260.0	148.2	87.7	75.0	72.3
55°	240.7	128.0	78.5	68.0	65.8
57.5°	221.9	108.7	69.7	61.4	59.6
60°	202.6	93.4	62.3	55.2	53.5
62.5°	182.8	81.1	55.2	49.5	47.8
65°	163.1	69.7	48.2	43.8	42.5
67.5°	142.5	58.8	42.1	38.6	37.7
70°	122.3	49.1	36.4	33.3	32.4
72.5°	102.6	39.9	30.7	28.5	27.6
75°	82.0	32.0	25.0	23.7	23.2
77.5°	64.0	25.0	20.2	19.3	18.9
80°	46.9	18.4	15.8	14.9	14.5
82.5°	31.1	12.7	11.4	11.0	10.5
85°	16.2	7.9	7.0	7.0	6.6
87.5°	5.3	3.5	3.5	3.5	3.1
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	17.59	19.05	17.95	19.37	19.68	12.39	13.86	12.76	14.17	14.49
	3H	19.92	21.23	20.29	21.56	21.92	14.04	15.36	14.42	15.68	16.05
	4H	20.81	22.05	21.21	22.39	22.77	14.67	15.91	15.07	16.26	16.64
	6H	21.47	22.61	21.89	22.98	23.37	15.17	16.31	15.58	16.68	17.07
	8H	21.68	22.77	22.11	23.16	23.56	15.34	16.42	15.77	16.81	17.21
	12H	21.80	22.83	22.23	23.22	23.65	15.46	16.49	15.89	16.88	17.30
4H	2H	17.60	18.84	18.00	19.18	19.56	13.11	14.34	13.51	14.69	15.07
	3H	20.01	21.04	20.42	21.44	21.84	14.95	15.98	15.36	16.38	16.78
	4H	20.94	21.87	21.38	22.28	22.72	15.70	16.62	16.13	17.04	17.48
	6H	21.72	22.52	22.18	22.97	23.43	16.32	17.12	16.78	17.56	18.02
	8H	21.99	22.74	22.46	23.19	23.65	16.53	17.28	17.00	17.73	18.20
	12H	22.17	22.84	22.65	23.32	23.79	16.70	17.36	17.18	17.84	18.32
8H	4H	20.94	21.69	21.40	22.13	22.60	16.08	16.83	16.55	17.27	17.74
	6H	21.74	22.36	22.24	22.85	23.33	16.82	17.44	17.32	17.93	18.41
	8H	22.05	22.60	22.56	23.11	23.60	17.12	17.67	17.63	18.18	18.67
	12H	22.28	22.76	22.79	23.26	23.82	17.36	17.85	17.87	18.34	18.91
12H	4H	20.92	21.59	21.40	22.07	22.54	16.14	16.81	16.62	17.29	17.76
	6H	21.72	22.27	22.24	22.79	23.27	16.91	17.46	17.42	17.97	18.46
	8H	22.05	22.54	22.56	23.04	23.60	17.26	17.75	17.77	18.24	18.81