

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: P1056028

Luminaire Tested: S124R3DR-S350D940-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1056028  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-8)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124R3DR-S350D940-X4F0-XX-UDD-F-B  
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

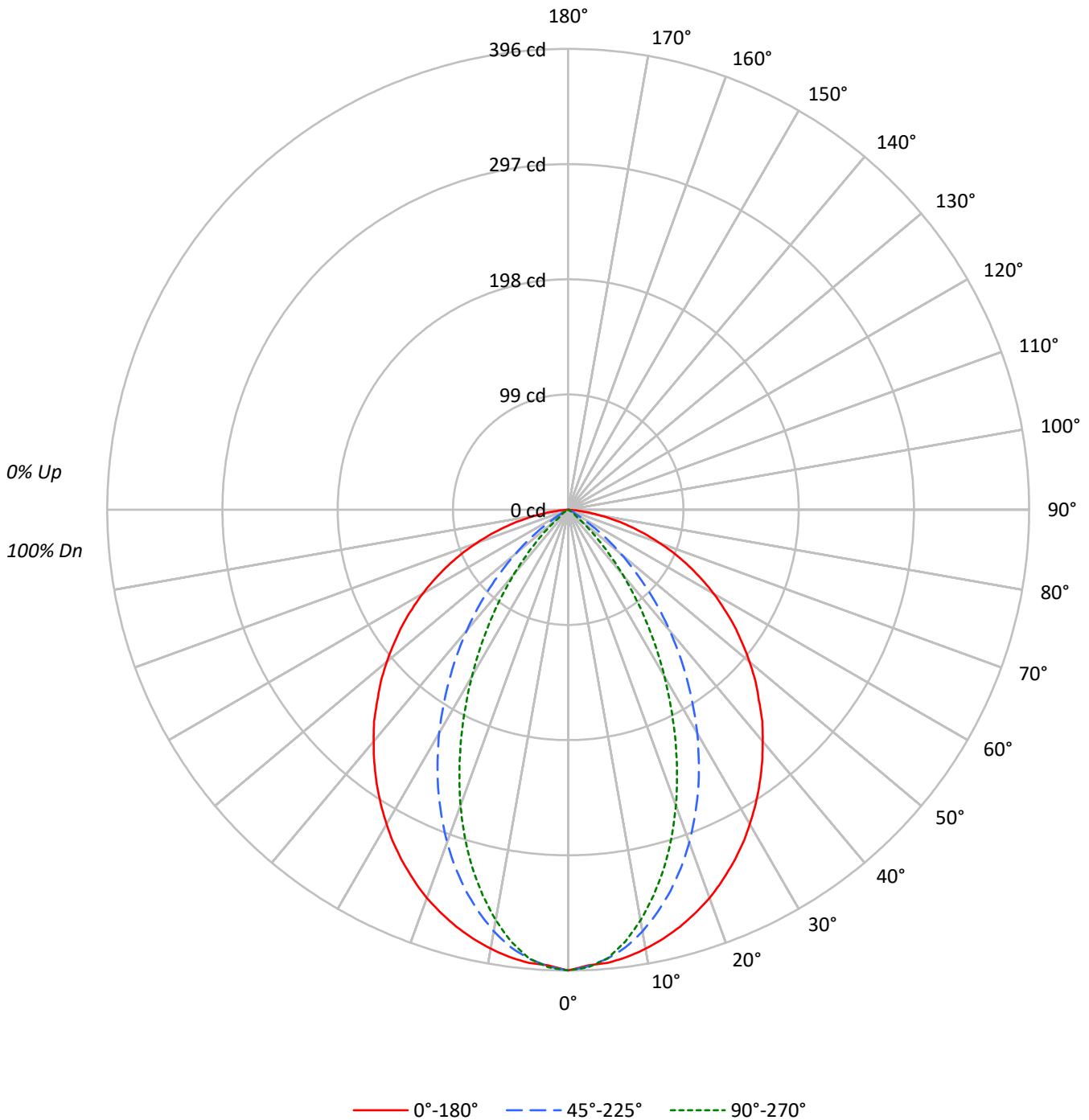
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 553.3 lumens  
Efficiency: N/A  
Efficacy: 43.9 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97  
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 12.6  
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	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	71
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65	64
5	84	74	66	61	83	73	66	61	71	65	60	69	64	60	67	63	59	57
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54	52
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	49	47
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45	43
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40
10	62	50	43	39	61	50	43	39	49	43	39	48	42	39	47	42	38	37

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

	0°	45°	90°
0°	3500	3500	3500
5°	3468	3437	3435
10°	3439	3303	3216
15°	3396	3105	2913
20°	3341	2863	2545
25°	3268	2578	2124
30°	3186	2262	1688
35°	3096	1919	1256
40°	3001	1564	838
45°	2897	1194	461
50°	2798	817	128
55°	2687	442	83
60°	2553	138	48
65°	2387	90	25
70°	2156	41	10
75°	1855	14	0
80°	1405	0	0
85°	588	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2897 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	36.5	6.6
10°-20°	95.9	17.3
20°-30°	123.9	22.4
30°-40°	118.4	21.4
40°-50°	88.6	16.0
50°-60°	52.7	9.5
60°-70°	26.8	4.8
70°-80°	9.3	1.7
80°-90°	1.3	0.2
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°	256.3	46.3
0°-40°	374.7	67.7
0°-60°	516.0	93.2
0°-90°	553.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	553.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	396	396	396	396	396	
5°	391	394	387	385	387	37
15°	371	363	339	323	318	105
25°	335	312	264	229	218	154
35°	287	247	178	132	116	179
45°	232	178	96	51	37	179
55°	174	108	29	7	5	156
65°	114	44	4	2	1	113
75°	54	6	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°	395.9	395.9	395.9	395.9	395.9
2.5°	392.0	396.7	392.8	393.2	393.6
5°	390.8	393.9	387.3	385.4	387.0
7.5°	387.7	388.9	379.2	374.2	374.5
10°	383.1	381.9	367.9	359.4	358.2
12.5°	377.6	373.8	354.4	341.9	339.2
15°	371.0	363.3	339.2	323.3	318.3
17.5°	363.3	352.0	322.5	301.6	295.4
20°	355.1	339.6	304.3	278.3	270.5
22.5°	345.4	325.6	284.5	253.8	244.1
25°	335.0	311.7	264.3	229.4	217.7
27.5°	324.1	296.5	243.0	204.5	191.0
30°	312.1	280.6	221.6	179.3	165.3
32.5°	299.6	264.3	199.5	156.0	140.5
35°	286.8	247.2	177.8	132.4	116.4
37.5°	273.6	230.2	156.8	109.8	93.5
40°	260.0	212.7	135.5	88.5	72.6
42.5°	246.8	195.2	115.3	68.3	53.6
45°	231.7	177.8	95.5	50.8	36.9
47.5°	218.1	160.7	76.5	34.5	21.7
50°	203.4	142.4	59.4	20.2	9.3
52.5°	188.6	125.4	43.5	8.9	7.0
55°	174.3	108.3	28.7	6.6	5.4
57.5°	159.1	91.2	15.5	5.0	3.9
60°	144.4	74.5	7.8	3.9	2.7
62.5°	129.2	58.6	6.2	2.3	1.6
65°	114.1	43.9	4.3	1.6	1.2
67.5°	99.0	29.9	2.7	0.8	0.4
70°	83.4	18.2	1.6	0.4	0.4
72.5°	68.7	9.3	0.8	0.4	0.4
75°	54.3	5.8	0.4	0.4	0.0
77.5°	40.4	3.1	0.4	0.4	0.0
80°	27.6	1.2	0.0	0.0	0.0
82.5°	15.9	0.4	0.0	0.0	0.0
85°	5.8	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	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	14.81	16.14	15.17	16.45	16.76	0.00	0.00	0.00	0.00	0.00
	3H	16.35	17.53	16.73	17.86	18.22	0.00	0.00	0.00	0.00	0.00
	4H	16.94	18.04	17.35	18.39	18.77	0.00	0.00	0.00	0.00	0.00
	6H	17.36	18.37	17.78	18.74	19.13	0.00	0.00	0.00	0.00	0.00
	8H	17.46	18.41	17.89	18.80	19.21	0.00	0.00	0.00	0.00	0.00
	12H	17.48	18.39	17.91	18.77	19.20	0.00	0.00	0.00	0.00	0.00
4H	2H	14.58	15.68	14.99	16.03	16.41	0.00	0.00	0.00	0.00	0.00
	3H	16.15	17.04	16.56	17.45	17.85	0.00	0.00	0.00	0.00	0.00
	4H	16.73	17.53	17.17	17.95	18.39	0.00	0.00	0.00	0.00	0.00
	6H	17.19	17.88	17.66	18.33	18.79	0.00	0.00	0.00	0.00	0.00
	8H	17.31	17.95	17.78	18.40	18.87	0.00	0.00	0.00	0.00	0.00
	12H	17.35	17.92	17.84	18.40	18.87	0.00	0.00	0.00	0.00	0.00
8H	4H	16.59	17.24	17.06	17.68	18.15	0.00	0.00	0.00	0.00	0.00
	6H	17.04	17.56	17.54	18.06	18.54	0.00	0.00	0.00	0.00	0.00
	8H	17.15	17.62	17.68	18.14	18.63	0.00	0.00	0.00	0.00	0.00
	12H	17.20	17.62	17.72	18.11	18.68	0.00	0.00	0.00	0.00	0.00
12H	4H	16.55	17.11	17.04	17.60	18.07	0.00	0.00	0.00	0.00	0.00
	6H	16.97	17.44	17.50	17.96	18.45	0.00	0.00	0.00	0.00	0.00
	8H	17.11	17.52	17.63	18.02	18.59	0.00	0.00	0.00	0.00	0.00