

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: P1056007

Luminaire Tested: S124R3DR-S350D830-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1056007  
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-S350D830-X4F0-XX-UDD-F-B  
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

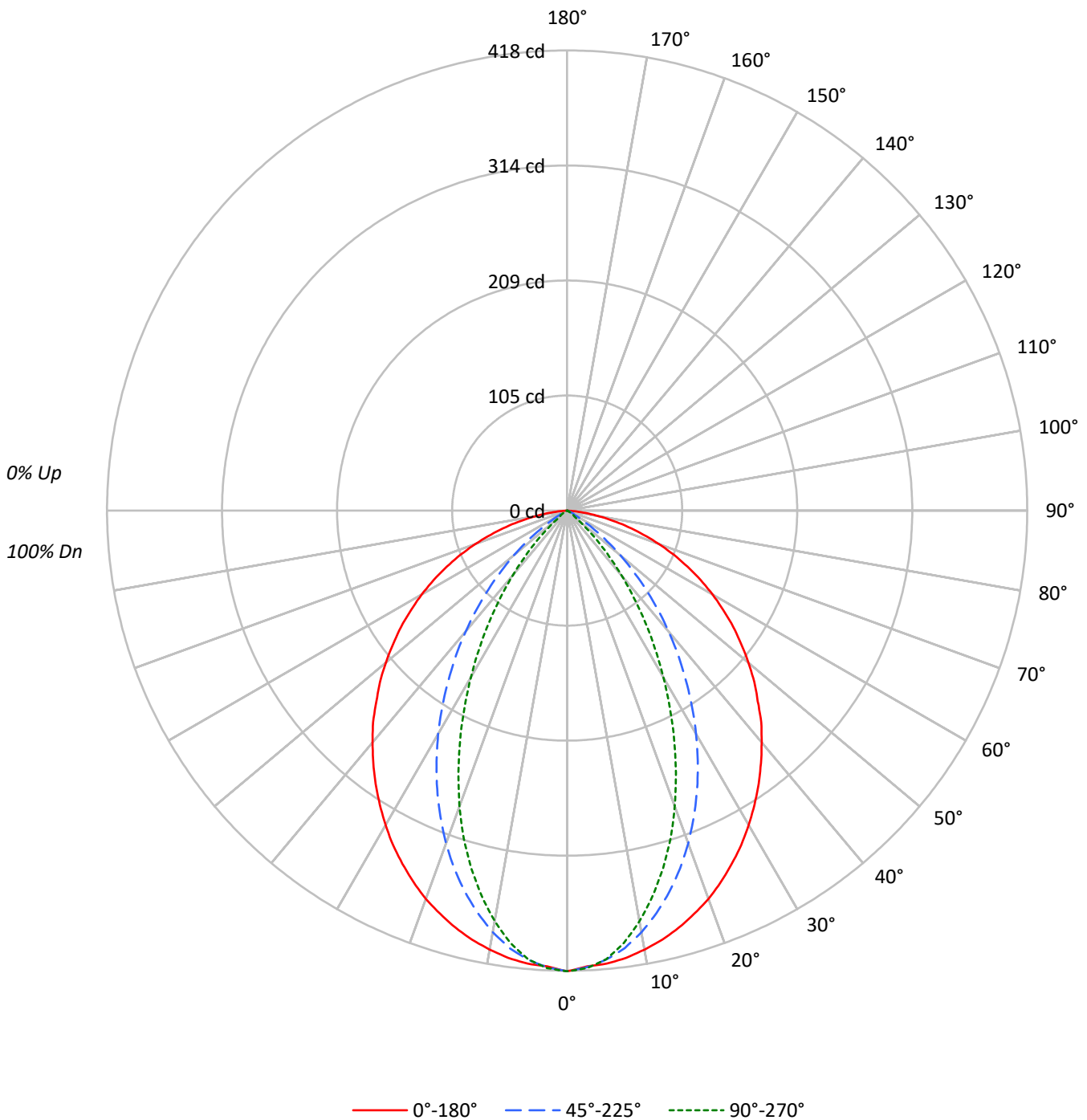
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 584.8 lumens  
Efficiency: N/A  
Efficacy: 46.4 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°	3700	3700	3700
5°	3666	3633	3630
10°	3635	3491	3400
15°	3590	3282	3079
20°	3532	3026	2690
25°	3453	2726	2246
30°	3367	2392	1785
35°	3273	2028	1329
40°	3173	1653	885
45°	3062	1262	488
50°	2957	864	135
55°	2839	469	88
60°	2698	145	51
65°	2523	94	25
70°	2280	41	10
75°	1961	14	0
80°	1482	0	0
85°	629	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3062 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.6	6.6
10°-20°	101.3	17.3
20°-30°	131.0	22.4
30°-40°	125.2	21.4
40°-50°	93.6	16.0
50°-60°	55.7	9.5
60°-70°	28.3	4.8
70°-80°	9.8	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°	270.9	46.3
0°-40°	396.1	67.7
0°-60°	545.4	93.3
0°-90°	584.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	584.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	418	418	418	418	418	
5°	413	416	409	407	409	39
15°	392	384	359	342	336	111
25°	354	329	279	242	230	163
35°	303	261	188	140	123	190
45°	245	188	101	54	39	189
55°	184	114	30	7	6	164
65°	121	46	4	2	1	119
75°	57	6	0	0	0	61
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°	418.5	418.5	418.5	418.5	418.5
2.5°	414.4	419.3	415.2	415.6	416.0
5°	413.1	416.4	409.4	407.4	409.0
7.5°	409.8	411.1	400.8	395.5	395.9
10°	404.9	403.7	388.9	379.9	378.7
12.5°	399.2	395.1	374.6	361.4	358.6
15°	392.2	384.0	358.6	341.7	336.4
17.5°	384.0	372.1	340.9	318.8	312.2
20°	375.4	359.0	321.6	294.1	285.9
22.5°	365.1	344.2	300.7	268.3	258.0
25°	354.0	329.4	279.4	242.5	230.2
27.5°	342.6	313.4	256.8	216.2	201.8
30°	329.8	296.6	234.3	189.5	174.8
32.5°	316.7	279.4	210.9	164.9	148.5
35°	303.2	261.3	187.9	139.9	123.1
37.5°	289.2	243.3	165.7	116.1	98.9
40°	274.9	224.8	143.2	93.5	76.7
42.5°	260.9	206.4	121.8	72.2	56.6
45°	244.9	187.9	100.9	53.7	39.0
47.5°	230.6	169.8	80.8	36.5	23.0
50°	215.0	150.6	62.8	21.3	9.8
52.5°	199.4	132.5	45.9	9.4	7.4
55°	184.2	114.5	30.4	7.0	5.7
57.5°	168.2	96.4	16.4	5.3	4.1
60°	152.6	78.8	8.2	4.1	2.9
62.5°	136.6	61.9	6.6	2.5	1.6
65°	120.6	46.4	4.5	1.6	1.2
67.5°	104.6	31.6	2.9	0.8	0.4
70°	88.2	19.3	1.6	0.4	0.4
72.5°	72.6	9.8	0.8	0.4	0.4
75°	57.4	6.2	0.4	0.4	0.0
77.5°	42.7	3.3	0.4	0.4	0.0
80°	29.1	1.2	0.0	0.0	0.0
82.5°	16.8	0.4	0.0	0.0	0.0
85°	6.2	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	15.00	16.33	15.37	16.64	16.96	0.00	0.00	0.00	0.00	0.00
	3H	16.54	17.72	16.92	18.05	18.41	0.00	0.00	0.00	0.00	0.00
	4H	17.14	18.23	17.54	18.58	18.97	0.00	0.00	0.00	0.00	0.00
	6H	17.55	18.56	17.97	18.93	19.32	0.00	0.00	0.00	0.00	0.00
	8H	17.65	18.60	18.08	19.00	19.40	0.00	0.00	0.00	0.00	0.00
	12H	17.67	18.58	18.10	18.96	19.40	0.00	0.00	0.00	0.00	0.00
4H	2H	14.78	15.87	15.18	16.22	16.61	0.00	0.00	0.00	0.00	0.00
	3H	16.34	17.24	16.75	17.64	18.04	0.00	0.00	0.00	0.00	0.00
	4H	16.92	17.72	17.36	18.14	18.58	0.00	0.00	0.00	0.00	0.00
	6H	17.38	18.07	17.85	18.52	18.98	0.00	0.00	0.00	0.00	0.00
	8H	17.50	18.15	17.97	18.59	19.06	0.00	0.00	0.00	0.00	0.00
	12H	17.54	18.11	18.03	18.59	19.07	0.00	0.00	0.00	0.00	0.00
8H	4H	16.79	17.43	17.26	17.88	18.35	0.00	0.00	0.00	0.00	0.00
	6H	17.23	17.75	17.73	18.25	18.73	0.00	0.00	0.00	0.00	0.00
	8H	17.35	17.81	17.87	18.33	18.82	0.00	0.00	0.00	0.00	0.00
	12H	17.40	17.81	17.91	18.30	18.87	0.00	0.00	0.00	0.00	0.00
12H	4H	16.74	17.31	17.23	17.79	18.27	0.00	0.00	0.00	0.00	0.00
	6H	17.17	17.64	17.69	18.15	18.64	0.00	0.00	0.00	0.00	0.00
	8H	17.30	17.71	17.82	18.21	18.78	0.00	0.00	0.00	0.00	0.00