

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: P1056157

Luminaire Tested: S124R3DR-H350D930-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1056157  
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-H350D930-X4F0-XX-UDD-FLL-B  
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

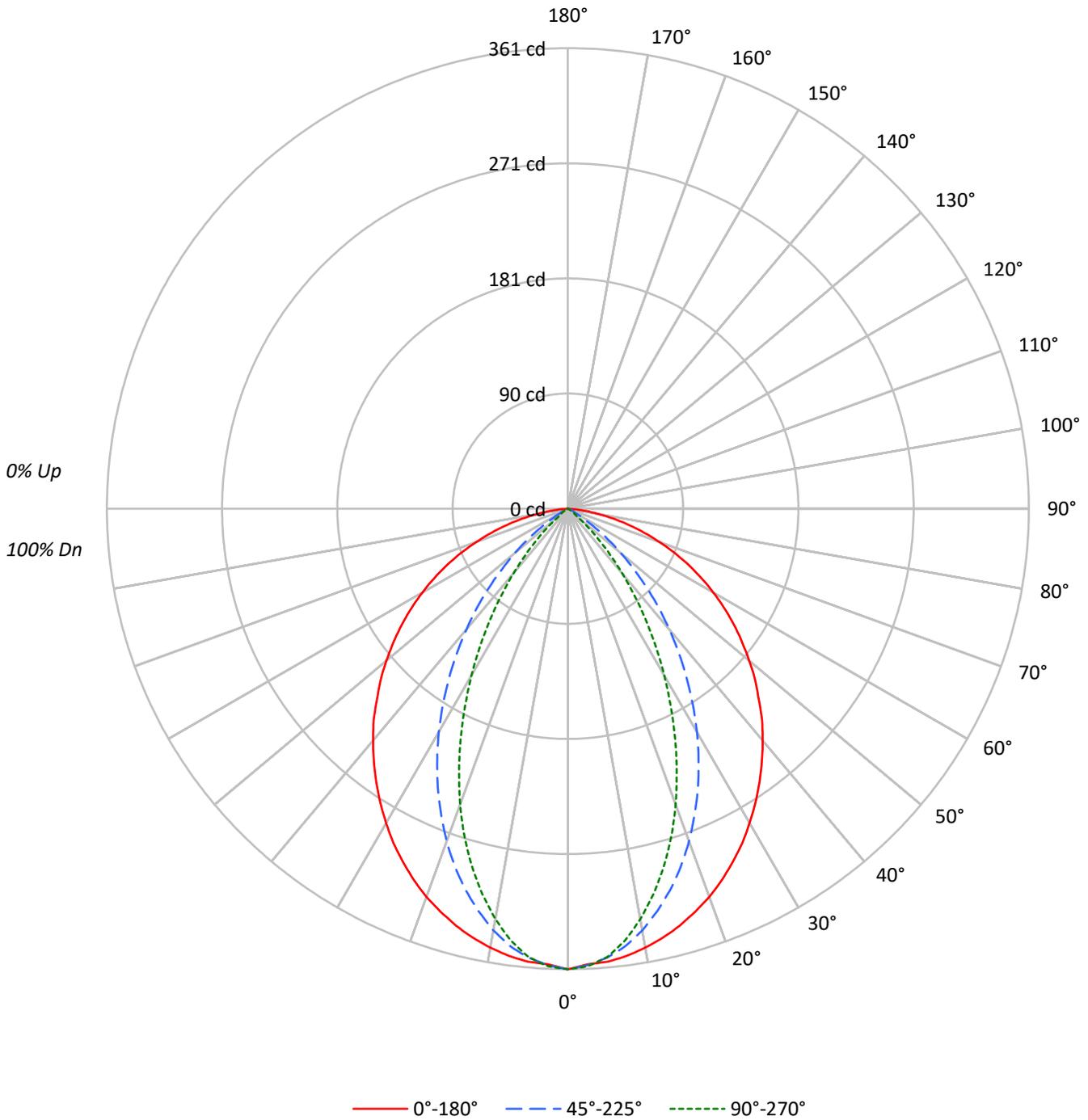
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 504.7 lumens  
Efficiency: N/A  
Efficacy: 43.1 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): 11.7  
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	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°	3193	3193	3193
5°	3164	3136	3132
10°	3137	3013	2933
15°	3097	2832	2657
20°	3048	2611	2321
25°	2980	2352	1937
30°	2906	2063	1540
35°	2824	1750	1146
40°	2738	1425	764
45°	2642	1089	420
50°	2552	746	117
55°	2449	404	77
60°	2329	126	44
65°	2178	82	23
70°	1967	36	10
75°	1694	14	0
80°	1278	0	0
85°	538	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2642 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	33.3	6.6
10°-20°	87.5	17.3
20°-30°	113.0	22.4
30°-40°	108.0	21.4
40°-50°	80.8	16.0
50°-60°	48.1	9.5
60°-70°	24.4	4.8
70°-80°	8.5	1.7
80°-90°	1.2	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°	233.8	46.3
0°-40°	341.8	67.7
0°-60°	470.6	93.2
0°-90°	504.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	504.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	361	361	361	361	361	
5°	356	359	353	352	353	34
15°	338	331	309	295	290	95
25°	306	284	241	209	199	141
35°	262	226	162	121	106	164
45°	211	162	87	46	34	163
55°	159	99	26	6	5	142
65°	104	40	4	1	1	103
75°	50	5	0	0	0	53
85°	5	0	0	0	0	9
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	361.1	361.1	361.1	361.1	361.1
2.5°	357.5	361.8	358.2	358.6	359.0
5°	356.5	359.3	353.3	351.5	352.9
7.5°	353.6	354.7	345.9	341.3	341.6
10°	349.4	348.3	335.6	327.8	326.7
12.5°	344.4	340.9	323.2	311.9	309.4
15°	338.4	331.3	309.4	294.9	290.3
17.5°	331.3	321.1	294.2	275.1	269.4
20°	323.9	309.7	277.5	253.8	246.7
22.5°	315.1	297.0	259.5	231.5	222.7
25°	305.5	284.3	241.1	209.2	198.6
27.5°	295.6	270.5	221.6	186.6	174.2
30°	284.6	255.9	202.1	163.5	150.8
32.5°	273.3	241.1	182.0	142.3	128.1
35°	261.6	225.5	162.1	120.7	106.2
37.5°	249.6	209.9	143.0	100.2	85.3
40°	237.2	194.0	123.5	80.7	66.2
42.5°	225.1	178.1	105.1	62.3	48.9
45°	211.3	162.1	87.1	46.4	33.6
47.5°	198.9	146.6	69.7	31.5	19.8
50°	185.5	129.9	54.2	18.4	8.5
52.5°	172.0	114.3	39.6	8.1	6.4
55°	158.9	98.8	26.2	6.0	5.0
57.5°	145.1	83.2	14.2	4.6	3.5
60°	131.7	68.0	7.1	3.5	2.5
62.5°	117.9	53.5	5.7	2.1	1.4
65°	104.1	40.0	3.9	1.4	1.1
67.5°	90.3	27.3	2.5	0.7	0.4
70°	76.1	16.6	1.4	0.4	0.4
72.5°	62.7	8.5	0.7	0.4	0.4
75°	49.6	5.3	0.4	0.4	0.0
77.5°	36.8	2.8	0.4	0.4	0.0
80°	25.1	1.1	0.0	0.0	0.0
82.5°	14.5	0.4	0.0	0.0	0.0
85°	5.3	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	14.49	15.82	14.85	16.13	16.44	0.00	0.00	0.00	0.00	0.00
	3H	16.03	17.21	16.41	17.54	17.90	0.00	0.00	0.00	0.00	0.00
	4H	16.63	17.72	17.03	18.07	18.45	0.00	0.00	0.00	0.00	0.00
	6H	17.04	18.05	17.46	18.42	18.81	0.00	0.00	0.00	0.00	0.00
	8H	17.14	18.09	17.57	18.48	18.89	0.00	0.00	0.00	0.00	0.00
	12H	17.16	18.07	17.59	18.45	18.88	0.00	0.00	0.00	0.00	0.00
4H	2H	14.27	15.36	14.67	15.71	16.10	0.00	0.00	0.00	0.00	0.00
	3H	15.83	16.72	16.24	17.13	17.53	0.00	0.00	0.00	0.00	0.00
	4H	16.41	17.21	16.85	17.63	18.07	0.00	0.00	0.00	0.00	0.00
	6H	16.87	17.56	17.34	18.01	18.47	0.00	0.00	0.00	0.00	0.00
	8H	16.99	17.63	17.46	18.08	18.55	0.00	0.00	0.00	0.00	0.00
	12H	17.03	17.60	17.52	18.08	18.56	0.00	0.00	0.00	0.00	0.00
8H	4H	16.28	16.92	16.75	17.37	17.84	0.00	0.00	0.00	0.00	0.00
	6H	16.72	17.24	17.22	17.74	18.22	0.00	0.00	0.00	0.00	0.00
	8H	16.83	17.30	17.36	17.82	18.31	0.00	0.00	0.00	0.00	0.00
	12H	16.88	17.30	17.40	17.79	18.36	0.00	0.00	0.00	0.00	0.00
12H	4H	16.23	16.80	16.72	17.28	17.75	0.00	0.00	0.00	0.00	0.00
	6H	16.66	17.12	17.18	17.64	18.13	0.00	0.00	0.00	0.00	0.00
	8H	16.79	17.20	17.31	17.70	18.27	0.00	0.00	0.00	0.00	0.00