

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: P1056154

Luminaire Tested: S124R3DR-H350D927-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1056154  
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-H350D927-X4F0-XX-UDD-FLL-B  
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

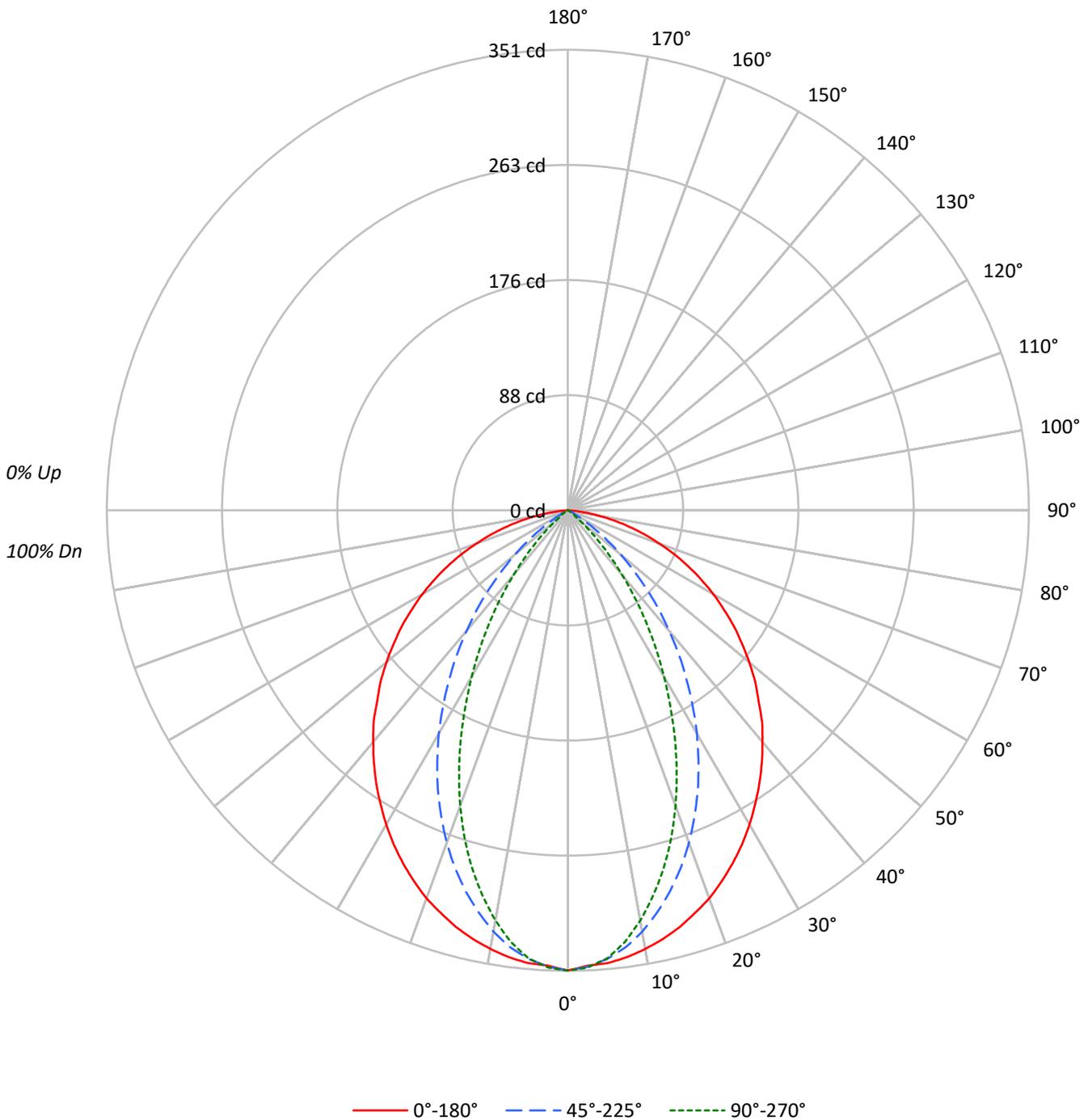
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 490.3 lumens  
Efficiency: N/A  
Efficacy: 41.9 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): 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	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°	3102	3102	3102
5°	3074	3047	3043
10°	3048	2928	2850
15°	3010	2751	2581
20°	2961	2538	2255
25°	2895	2285	1883
30°	2823	2005	1496
35°	2744	1700	1114
40°	2660	1385	742
45°	2567	1058	409
50°	2479	723	114
55°	2380	393	74
60°	2263	122	42
65°	2115	79	21
70°	1913	36	8
75°	1647	10	0
80°	1242	0	0
85°	528	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2567 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	32.4	6.6
10°-20°	85.0	17.3
20°-30°	109.8	22.4
30°-40°	104.9	21.4
40°-50°	78.5	16.0
50°-60°	46.7	9.5
60°-70°	23.7	4.8
70°-80°	8.2	1.7
80°-90°	1.1	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°	227.1	46.3
0°-40°	332.1	67.7
0°-60°	457.3	93.3
0°-90°	490.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	490.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	351	351	351	351	351	
5°	346	349	343	342	343	33
15°	329	322	301	286	282	93
25°	297	276	234	203	193	137
35°	254	219	158	117	103	159
45°	205	158	85	45	33	159
55°	154	96	26	6	5	138
65°	101	39	4	1	1	100
75°	48	5	0	0	0	51
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°	350.8	350.8	350.8	350.8	350.8
2.5°	347.4	351.5	348.1	348.4	348.8
5°	346.4	349.1	343.3	341.6	342.9
7.5°	343.6	344.6	336.0	331.6	331.9
10°	339.5	338.5	326.1	318.5	317.5
12.5°	334.7	331.2	314.0	303.0	300.6
15°	328.8	321.9	300.6	286.5	282.0
17.5°	321.9	312.0	285.8	267.3	261.8
20°	314.7	301.0	269.7	246.6	239.7
22.5°	306.1	288.6	252.1	224.9	216.4
25°	296.8	276.2	234.2	203.3	193.0
27.5°	287.2	262.8	215.3	181.3	169.2
30°	276.5	248.7	196.4	158.9	146.5
32.5°	265.5	234.2	176.8	138.3	124.5
35°	254.2	219.1	157.5	117.3	103.2
37.5°	242.5	204.0	139.0	97.3	82.9
40°	230.5	188.5	120.0	78.4	64.3
42.5°	218.8	173.0	102.2	60.5	47.5
45°	205.3	157.5	84.6	45.1	32.7
47.5°	193.3	142.4	67.8	30.6	19.3
50°	180.2	126.2	52.6	17.9	8.3
52.5°	167.2	111.1	38.5	7.9	6.2
55°	154.4	96.0	25.5	5.8	4.8
57.5°	141.0	80.8	13.8	4.5	3.4
60°	128.0	66.0	6.9	3.4	2.4
62.5°	114.5	51.9	5.5	2.1	1.4
65°	101.1	38.9	3.8	1.4	1.0
67.5°	87.7	26.5	2.4	0.7	0.3
70°	74.0	16.2	1.4	0.3	0.3
72.5°	60.9	8.3	0.7	0.3	0.3
75°	48.2	5.2	0.3	0.3	0.0
77.5°	35.8	2.8	0.3	0.3	0.0
80°	24.4	1.0	0.0	0.0	0.0
82.5°	14.1	0.3	0.0	0.0	0.0
85°	5.2	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	14.39	15.71	14.75	16.03	16.34	0.00	0.00	0.00	0.00	0.00
	3H	15.93	17.11	16.31	17.44	17.80	0.00	0.00	0.00	0.00	0.00
	4H	16.53	17.62	16.93	17.97	18.35	0.00	0.00	0.00	0.00	0.00
	6H	16.94	17.95	17.36	18.32	18.71	0.00	0.00	0.00	0.00	0.00
	8H	17.04	17.99	17.47	18.38	18.79	0.00	0.00	0.00	0.00	0.00
	12H	17.06	17.97	17.49	18.35	18.78	0.00	0.00	0.00	0.00	0.00
4H	2H	14.16	15.26	14.57	15.61	15.99	0.00	0.00	0.00	0.00	0.00
	3H	15.73	16.62	16.14	17.03	17.43	0.00	0.00	0.00	0.00	0.00
	4H	16.31	17.11	16.75	17.53	17.97	0.00	0.00	0.00	0.00	0.00
	6H	16.77	17.46	17.24	17.91	18.37	0.00	0.00	0.00	0.00	0.00
	8H	16.89	17.53	17.36	17.98	18.45	0.00	0.00	0.00	0.00	0.00
	12H	16.93	17.50	17.42	17.98	18.46	0.00	0.00	0.00	0.00	0.00
8H	4H	16.18	16.82	16.65	17.27	17.74	0.00	0.00	0.00	0.00	0.00
	6H	16.62	17.14	17.12	17.64	18.12	0.00	0.00	0.00	0.00	0.00
	8H	16.73	17.20	17.26	17.72	18.21	0.00	0.00	0.00	0.00	0.00
	12H	16.78	17.20	17.30	17.69	18.26	0.00	0.00	0.00	0.00	0.00
12H	4H	16.13	16.70	16.62	17.18	17.65	0.00	0.00	0.00	0.00	0.00
	6H	16.56	17.03	17.08	17.54	18.03	0.00	0.00	0.00	0.00	0.00
	8H	16.69	17.10	17.21	17.60	18.17	0.00	0.00	0.00	0.00	0.00