

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: P1056169

Luminaire Tested: S124R3DR-H575D830-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1056169  
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-H575D830-X4F0-XX-UDD-F-B  
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

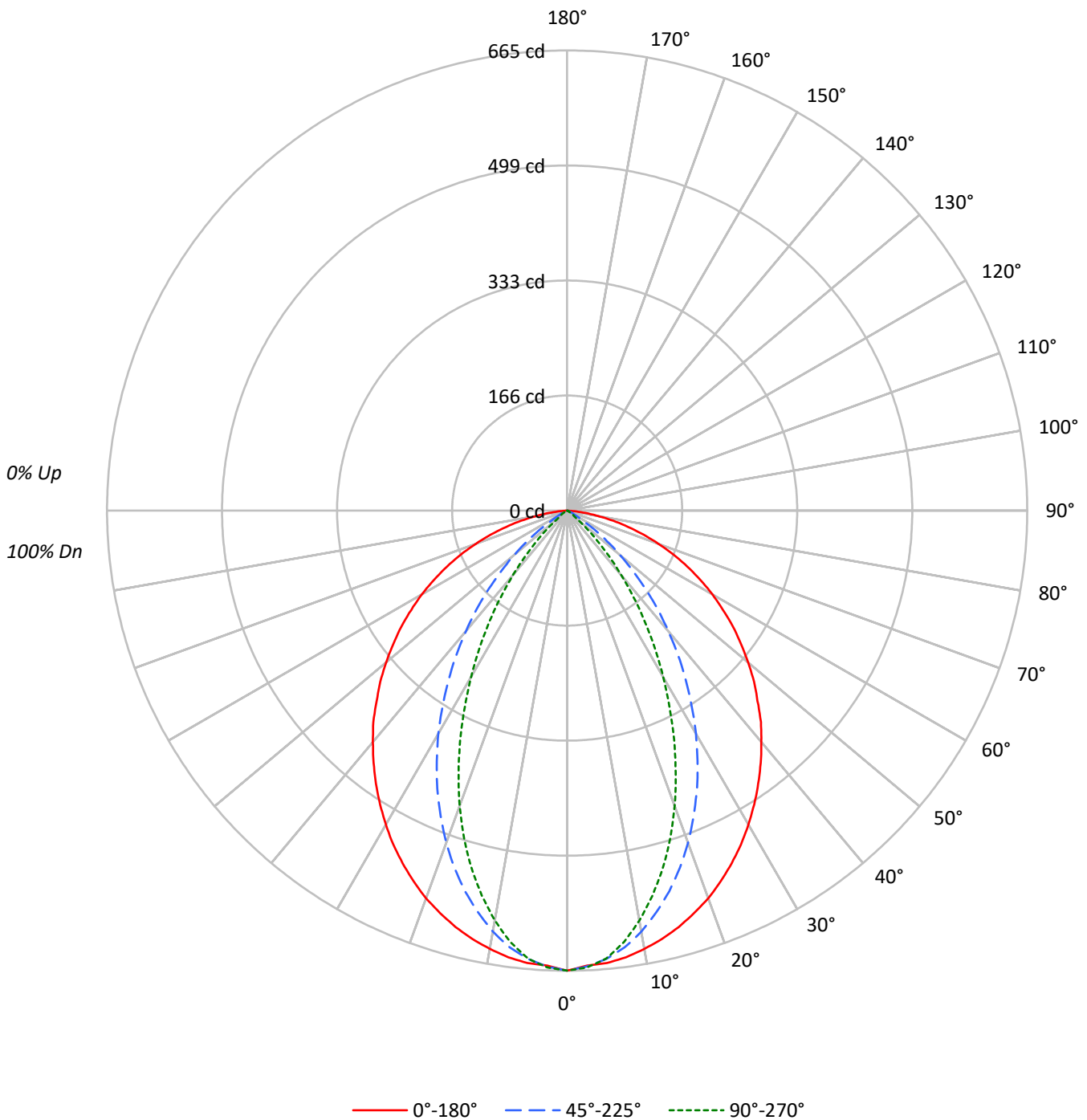
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 929.1 lumens  
Efficiency: N/A  
Efficacy: 53.7 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): 17.3  
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	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					100			
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90					90			
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80					80			
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	71					71			
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65	64					64			
5	84	74	66	61	83	73	66	61	71	65	60	69	64	60	67	63	59	57					57			
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54	52					52			
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	49	47					47			
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45	43					43			
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40					40			
10	62	50	43	39	61	50	43	39	49	43	39	48	42	39	47	42	38	37					37			

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

	0°	45°	90°
0°	5878	5878	5878
5°	5825	5772	5767
10°	5775	5546	5400
15°	5702	5214	4892
20°	5610	4807	4273
25°	5486	4329	3567
30°	5350	3799	2834
35°	5198	3222	2110
40°	5040	2626	1407
45°	4865	2004	774
50°	4697	1371	215
55°	4510	743	140
60°	4286	230	81
65°	4008	151	42
70°	3622	67	18
75°	3115	24	0
80°	2357	0	0
85°	994	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4865 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.3	6.6
10°-20°	161.0	17.3
20°-30°	208.0	22.4
30°-40°	198.8	21.4
40°-50°	148.7	16.0
50°-60°	88.5	9.5
60°-70°	44.9	4.8
70°-80°	15.6	1.7
80°-90°	2.1	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°	430.4	46.3
0°-40°	629.2	67.7
0°-60°	866.4	93.3
0°-90°	929.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	929.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	665	665	665	665	665	
5°	656	662	650	647	650	62
15°	623	610	570	543	534	176
25°	562	523	444	385	366	259
35°	482	415	298	222	196	301
45°	389	298	160	85	62	301
55°	293	182	48	11	9	261
65°	192	74	7	3	2	189
75°	91	10	1	1	0	97
85°	10	0	0	0	0	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	664.8	664.8	664.8	664.8	664.8
2.5°	658.2	666.1	659.5	660.2	660.8
5°	656.3	661.5	650.4	647.2	649.8
7.5°	651.1	653.0	636.7	628.3	628.9
10°	643.2	641.3	617.8	603.5	601.5
12.5°	634.1	627.6	595.0	574.2	569.6
15°	623.0	610.0	569.6	542.9	534.4
17.5°	610.0	591.1	541.6	506.4	496.0
20°	596.3	570.3	510.9	467.3	454.2
22.5°	580.0	546.8	477.7	426.2	409.9
25°	562.4	523.3	443.8	385.2	365.6
27.5°	544.2	497.9	408.0	343.5	320.6
30°	524.0	471.2	372.1	301.1	277.6
32.5°	503.1	443.8	335.0	262.0	235.9
35°	481.6	415.1	298.5	222.2	195.5
37.5°	459.5	386.5	263.3	184.4	157.1
40°	436.7	357.1	227.5	148.6	121.9
42.5°	414.5	327.8	193.6	114.7	89.9
45°	389.1	298.5	160.3	85.4	61.9
47.5°	366.3	269.8	128.4	58.0	36.5
50°	341.5	239.2	99.7	33.9	15.6
52.5°	316.7	210.5	73.0	15.0	11.7
55°	292.6	181.8	48.2	11.1	9.1
57.5°	267.2	153.2	26.1	8.5	6.5
60°	242.4	125.1	13.0	6.5	4.6
62.5°	217.0	98.4	10.4	3.9	2.6
65°	191.6	73.6	7.2	2.6	2.0
67.5°	166.2	50.2	4.6	1.3	0.7
70°	140.1	30.6	2.6	0.7	0.7
72.5°	115.4	15.6	1.3	0.7	0.7
75°	91.2	9.8	0.7	0.7	0.0
77.5°	67.8	5.2	0.7	0.7	0.0
80°	46.3	2.0	0.0	0.0	0.0
82.5°	26.7	0.7	0.0	0.0	0.0
85°	9.8	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	16.61	17.94	16.97	18.25	18.57	0.00	0.00	0.00	0.00	0.00
	3H	18.15	19.33	18.53	19.66	20.02	0.00	0.00	0.00	0.00	0.00
	4H	18.75	19.84	19.15	20.19	20.57	0.00	0.00	0.00	0.00	0.00
	6H	19.16	20.17	19.58	20.54	20.93	0.00	0.00	0.00	0.00	0.00
	8H	19.26	20.21	19.69	20.60	21.01	0.00	0.00	0.00	0.00	0.00
	12H	19.28	20.19	19.71	20.57	21.00	0.00	0.00	0.00	0.00	0.00
4H	2H	16.39	17.48	16.79	17.83	18.22	0.00	0.00	0.00	0.00	0.00
	3H	17.95	18.84	18.36	19.25	19.65	0.00	0.00	0.00	0.00	0.00
	4H	18.53	19.33	18.97	19.75	20.19	0.00	0.00	0.00	0.00	0.00
	6H	18.99	19.68	19.46	20.13	20.59	0.00	0.00	0.00	0.00	0.00
	8H	19.11	19.75	19.58	20.20	20.67	0.00	0.00	0.00	0.00	0.00
	12H	19.15	19.72	19.64	20.20	20.68	0.00	0.00	0.00	0.00	0.00
8H	4H	18.40	19.04	18.87	19.49	19.96	0.00	0.00	0.00	0.00	0.00
	6H	18.84	19.36	19.34	19.86	20.34	0.00	0.00	0.00	0.00	0.00
	8H	18.96	19.42	19.48	19.94	20.43	0.00	0.00	0.00	0.00	0.00
	12H	19.00	19.42	19.52	19.91	20.48	0.00	0.00	0.00	0.00	0.00
12H	4H	18.35	18.92	18.84	19.40	19.87	0.00	0.00	0.00	0.00	0.00
	6H	18.78	19.24	19.30	19.76	20.25	0.00	0.00	0.00	0.00	0.00
	8H	18.91	19.32	19.43	19.82	20.39	0.00	0.00	0.00	0.00	0.00