

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: P1056175

Luminaire Tested: S124R3DR-H575D840-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1056175  
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-H575D840-X4F0-XX-UDD-F-B  
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

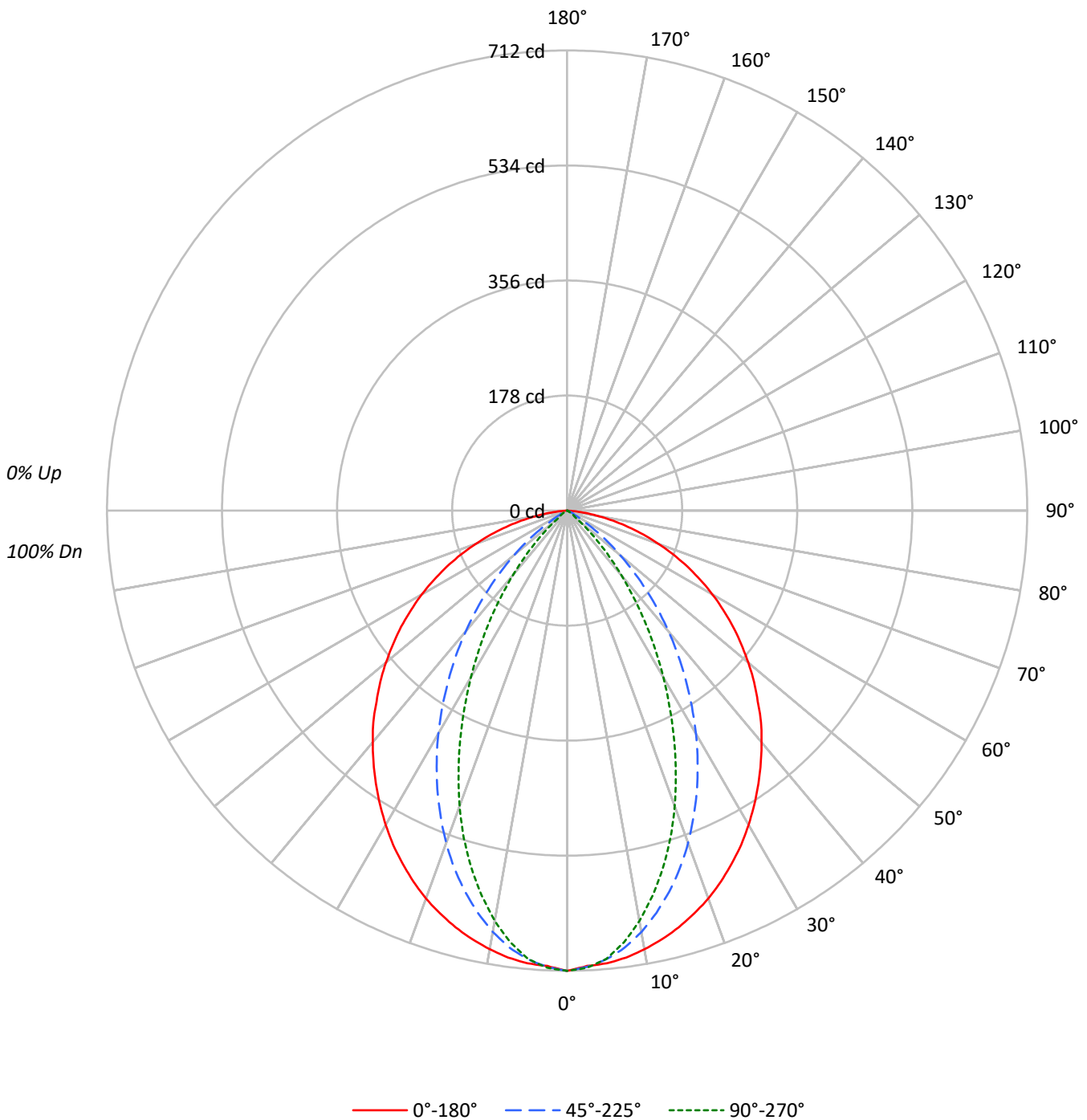
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 995.5 lumens  
Efficiency: N/A  
Efficacy: 57.5 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

TEST NUMBER: P1056175

CATALOG NUMBER: S124R3DR-H575D840-X4F0-XX-UDD-F-B

### Luminous Intensity Polar Plot





TEST NUMBER: P1056175

CATALOG NUMBER: S124R3DR-H575D840-X4F0-XX-UDD-F-B

**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°	6297	6297	6297
5°	6241	6185	6179
10°	6187	5943	5786
15°	6110	5586	5241
20°	6011	5150	4579
25°	5879	4639	3821
30°	5731	4070	3037
35°	5569	3452	2261
40°	5399	2813	1507
45°	5213	2148	829
50°	5033	1469	231
55°	4832	797	151
60°	4594	248	87
65°	4295	161	44
70°	3880	72	18
75°	3341	24	0
80°	2525	0	0
85°	1065	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5213 cd/sqm



TEST NUMBER: P1056175

CATALOG NUMBER: S124R3DR-H575D840-X4F0-XX-UDD-F-B

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	65.7	6.6
10°-20°	172.5	17.3
20°-30°	222.9	22.4
30°-40°	213.0	21.4
40°-50°	159.3	16.0
50°-60°	94.8	9.5
60°-70°	48.1	4.8
70°-80°	16.7	1.7
80°-90°	2.3	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°	461.1	46.3
0°-40°	674.2	67.7
0°-60°	928.3	93.3
0°-90°	995.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	995.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	712	712	712	712	712	
5°	703	709	697	693	696	67
15°	668	654	610	582	573	188
25°	603	561	476	413	392	278
35°	516	445	320	238	210	323
45°	417	320	172	92	66	322
55°	314	195	52	12	10	280
65°	205	79	8	3	2	203
75°	98	10	1	1	0	104
85°	10	0	0	0	0	17
90°	0	0	0	0	0	



TEST NUMBER: P1056175

CATALOG NUMBER: S124R3DR-H575D840-X4F0-XX-UDD-F-B

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	712.2	712.2	712.2	712.2	712.2
2.5°	705.3	713.6	706.7	707.3	708.0
5°	703.2	708.7	696.9	693.4	696.2
7.5°	697.6	699.7	682.2	673.1	673.8
10°	689.2	687.1	662.0	646.6	644.5
12.5°	679.4	672.4	637.5	615.2	610.3
15°	667.5	653.6	610.3	581.7	572.6
17.5°	653.6	633.3	580.3	542.6	531.4
20°	638.9	611.0	547.4	500.7	486.7
22.5°	621.5	585.9	511.8	456.7	439.2
25°	602.6	560.7	475.5	412.7	391.7
27.5°	583.1	533.5	437.1	368.0	343.5
30°	561.4	504.9	398.7	322.6	297.5
32.5°	539.1	475.5	358.9	280.7	252.8
35°	516.0	444.8	319.8	238.1	209.5
37.5°	492.3	414.1	282.1	197.6	168.3
40°	467.8	382.7	243.7	159.2	130.6
42.5°	444.1	351.2	207.4	122.9	96.4
45°	416.9	319.8	171.8	91.5	66.3
47.5°	392.4	289.1	137.6	62.1	39.1
50°	365.9	256.3	106.8	36.3	16.8
52.5°	339.4	225.5	78.2	16.1	12.6
55°	313.5	194.8	51.7	11.9	9.8
57.5°	286.3	164.1	27.9	9.1	7.0
60°	259.8	134.1	14.0	7.0	4.9
62.5°	232.5	105.4	11.2	4.2	2.8
65°	205.3	78.9	7.7	2.8	2.1
67.5°	178.1	53.8	4.9	1.4	0.7
70°	150.1	32.8	2.8	0.7	0.7
72.5°	123.6	16.8	1.4	0.7	0.7
75°	97.8	10.5	0.7	0.7	0.0
77.5°	72.6	5.6	0.7	0.7	0.0
80°	49.6	2.1	0.0	0.0	0.0
82.5°	28.6	0.7	0.0	0.0	0.0
85°	10.5	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



TEST NUMBER: P1056175  
 CATALOG NUMBER: S124R3DR-H575D840-X4F0-XX-UDD-F-B

**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	16.85	18.18	17.21	18.49	18.80	0.00	0.00	0.00	0.00	0.00
	3H	18.39	19.57	18.77	19.90	20.26	0.00	0.00	0.00	0.00	0.00
	4H	18.99	20.08	19.39	20.43	20.81	0.00	0.00	0.00	0.00	0.00
	6H	19.40	20.41	19.82	20.78	21.17	0.00	0.00	0.00	0.00	0.00
	8H	19.50	20.45	19.93	20.84	21.25	0.00	0.00	0.00	0.00	0.00
	12H	19.52	20.43	19.95	20.81	21.24	0.00	0.00	0.00	0.00	0.00
4H	2H	16.63	17.72	17.03	18.07	18.46	0.00	0.00	0.00	0.00	0.00
	3H	18.19	19.08	18.60	19.49	19.89	0.00	0.00	0.00	0.00	0.00
	4H	18.77	19.57	19.21	19.99	20.43	0.00	0.00	0.00	0.00	0.00
	6H	19.23	19.92	19.70	20.37	20.83	0.00	0.00	0.00	0.00	0.00
	8H	19.35	19.99	19.82	20.44	20.91	0.00	0.00	0.00	0.00	0.00
	12H	19.39	19.96	19.88	20.44	20.92	0.00	0.00	0.00	0.00	0.00
8H	4H	18.64	19.28	19.11	19.73	20.20	0.00	0.00	0.00	0.00	0.00
	6H	19.08	19.60	19.58	20.10	20.58	0.00	0.00	0.00	0.00	0.00
	8H	19.19	19.66	19.72	20.18	20.67	0.00	0.00	0.00	0.00	0.00
	12H	19.24	19.66	19.76	20.15	20.72	0.00	0.00	0.00	0.00	0.00
12H	4H	18.59	19.16	19.08	19.64	20.11	0.00	0.00	0.00	0.00	0.09
	6H	19.02	19.48	19.54	20.00	20.49	0.00	0.00	0.00	0.00	0.00
	8H	19.15	19.56	19.67	20.06	20.63	0.00	0.00	0.00	0.00	0.00