

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: P1056163

Luminaire Tested: S124R3DR-H350D940-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1056163  
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-H350D940-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, 90 CRI LEDS  
Ballast/Driver: -

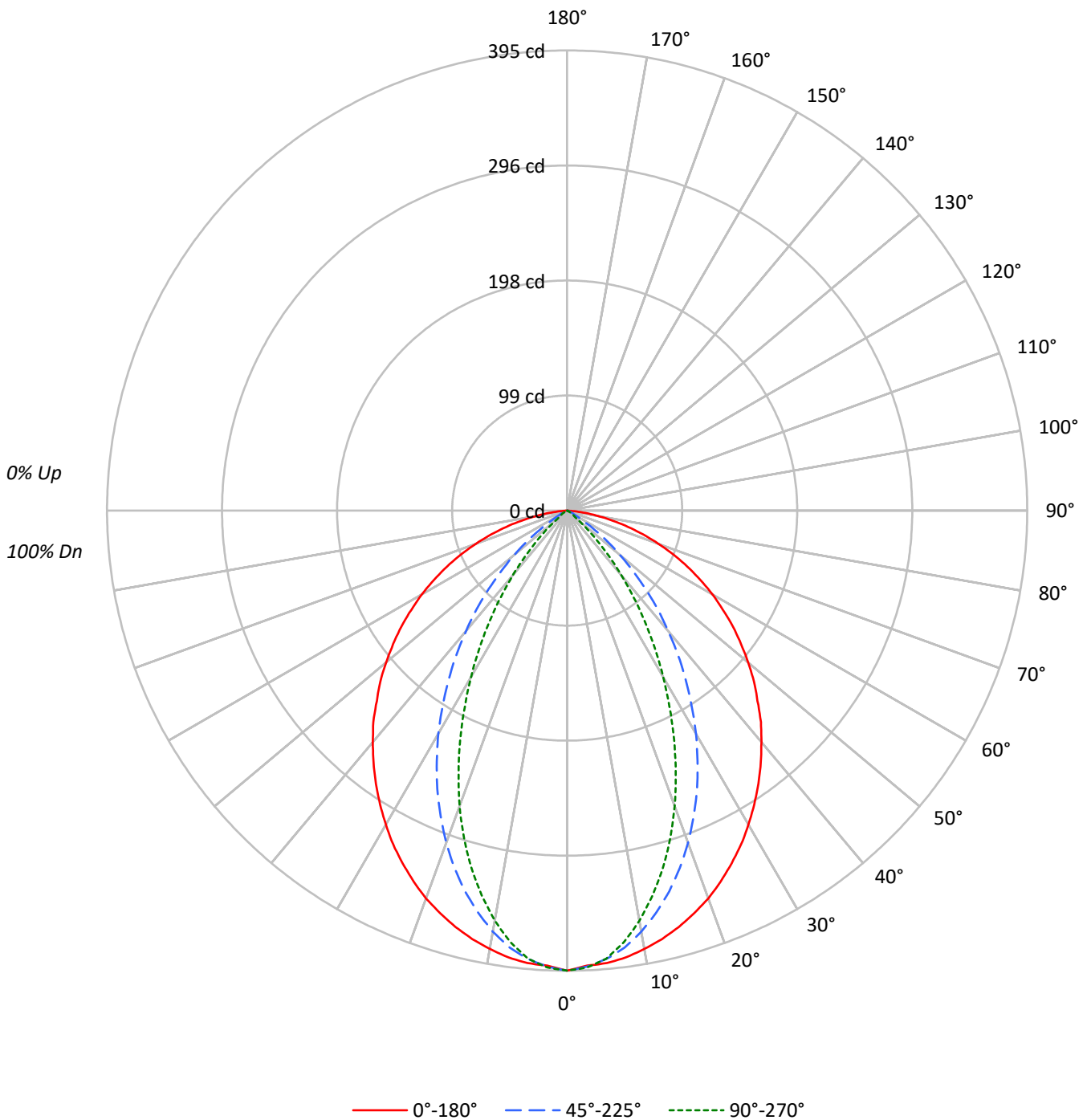
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 552.0 lumens  
Efficiency: N/A  
Efficacy: 47.2 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

TEST NUMBER: P1056163

CATALOG NUMBER: S124R3DR-H350D940-X4F0-XX-UDD-F-B

### Luminous Intensity Polar Plot





TEST NUMBER: P1056163

CATALOG NUMBER: S124R3DR-H350D940-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°	3491	3491	3491
5°	3460	3429	3426
10°	3430	3295	3209
15°	3388	3097	2906
20°	3334	2856	2539
25°	3259	2572	2119
30°	3178	2257	1683
35°	3088	1914	1254
40°	2994	1559	836
45°	2890	1190	460
50°	2791	814	128
55°	2679	442	83
60°	2546	136	48
65°	2381	90	25
70°	2151	39	10
75°	1851	14	0
80°	1400	0	0
85°	588	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2890 cd/sqm



TEST NUMBER: P1056163

CATALOG NUMBER: S124R3DR-H350D940-X4F0-XX-UDD-F-B

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	36.4	6.6
10°-20°	95.6	17.3
20°-30°	123.6	22.4
30°-40°	118.1	21.4
40°-50°	88.3	16.0
50°-60°	52.6	9.5
60°-70°	26.7	4.8
70°-80°	9.3	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°	255.7	46.3
0°-40°	373.8	67.7
0°-60°	514.7	93.3
0°-90°	552.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	552.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	395	395	395	395	395	
5°	390	393	386	384	386	37
15°	370	362	338	322	318	104
25°	334	311	264	229	217	154
35°	286	247	177	132	116	179
45°	231	177	95	51	37	179
55°	174	108	29	7	5	155
65°	114	44	4	2	1	113
75°	54	6	0	0	0	58
85°	6	0	0	0	0	10
90°	0	0	0	0	0	



TEST NUMBER: P1056163

CATALOG NUMBER: S124R3DR-H350D940-X4F0-XX-UDD-F-B

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	394.9	394.9	394.9	394.9	394.9
2.5°	391.0	395.7	391.8	392.2	392.6
5°	389.9	393.0	386.4	384.5	386.0
7.5°	386.8	387.9	378.3	373.2	373.6
10°	382.1	381.0	367.0	358.5	357.4
12.5°	376.7	372.8	353.5	341.1	338.4
15°	370.1	362.4	338.4	322.5	317.5
17.5°	362.4	351.2	321.7	300.8	294.6
20°	354.3	338.8	303.5	277.6	269.9
22.5°	344.6	324.8	283.8	253.2	243.5
25°	334.1	310.9	263.7	228.8	217.2
27.5°	323.3	295.8	242.4	204.0	190.5
30°	311.3	279.9	221.1	178.9	164.9
32.5°	298.9	263.7	199.0	155.6	140.2
35°	286.1	246.6	177.3	132.0	116.2
37.5°	273.0	229.6	156.4	109.6	93.3
40°	259.4	212.2	135.1	88.3	72.4
42.5°	246.2	194.7	115.0	68.1	53.4
45°	231.1	177.3	95.2	50.7	36.8
47.5°	217.6	160.3	76.3	34.5	21.7
50°	202.9	142.1	59.2	20.1	9.3
52.5°	188.2	125.1	43.4	8.9	7.0
55°	173.8	108.0	28.7	6.6	5.4
57.5°	158.7	91.0	15.5	5.0	3.9
60°	144.0	74.3	7.7	3.9	2.7
62.5°	128.9	58.5	6.2	2.3	1.5
65°	113.8	43.8	4.3	1.5	1.2
67.5°	98.7	29.8	2.7	0.8	0.4
70°	83.2	18.2	1.5	0.4	0.4
72.5°	68.5	9.3	0.8	0.4	0.4
75°	54.2	5.8	0.4	0.4	0.0
77.5°	40.3	3.1	0.4	0.4	0.0
80°	27.5	1.2	0.0	0.0	0.0
82.5°	15.9	0.4	0.0	0.0	0.0
85°	5.8	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



TEST NUMBER: P1056163  
 CATALOG NUMBER: S124R3DR-H350D940-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	14.80	16.13	15.16	16.44	16.76	0.00	0.00	0.00	0.00	0.00
	3H	16.34	17.52	16.72	17.85	18.21	0.00	0.00	0.00	0.00	0.00
	4H	16.93	18.03	17.34	18.38	18.76	0.00	0.00	0.00	0.00	0.00
	6H	17.35	18.36	17.77	18.73	19.12	0.00	0.00	0.00	0.00	0.00
	8H	17.45	18.40	17.88	18.80	19.20	0.00	0.00	0.00	0.00	0.00
	12H	17.47	18.38	17.90	18.76	19.19	0.00	0.00	0.00	0.00	0.00
4H	2H	14.58	15.67	14.98	16.02	16.41	0.00	0.00	0.00	0.00	0.00
	3H	16.14	17.03	16.55	17.44	17.84	0.00	0.00	0.00	0.00	0.00
	4H	16.72	17.52	17.16	17.94	18.38	0.00	0.00	0.00	0.00	0.00
	6H	17.18	17.87	17.65	18.32	18.78	0.00	0.00	0.00	0.00	0.00
	8H	17.30	17.95	17.77	18.39	18.86	0.00	0.00	0.00	0.00	0.00
	12H	17.34	17.91	17.83	18.39	18.87	0.00	0.00	0.00	0.00	0.00
8H	4H	16.59	17.23	17.06	17.67	18.15	0.00	0.00	0.00	0.00	0.00
	6H	17.03	17.55	17.53	18.05	18.53	0.00	0.00	0.00	0.00	0.00
	8H	17.15	17.61	17.67	18.13	18.62	0.00	0.00	0.00	0.00	0.00
	12H	17.20	17.61	17.71	18.10	18.67	0.00	0.00	0.00	0.00	0.00
12H	4H	16.54	17.11	17.03	17.59	18.06	0.00	0.00	0.00	0.00	0.00
	6H	16.97	17.43	17.49	17.95	18.44	0.00	0.00	0.00	0.00	0.00
	8H	17.10	17.51	17.62	18.01	18.58	0.00	0.00	0.00	0.00	0.00