

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: P1056010

Luminaire Tested: S124R3DR-S350D835-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1056010  
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-S350D835-X4F0-XX-UDD-F-B  
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

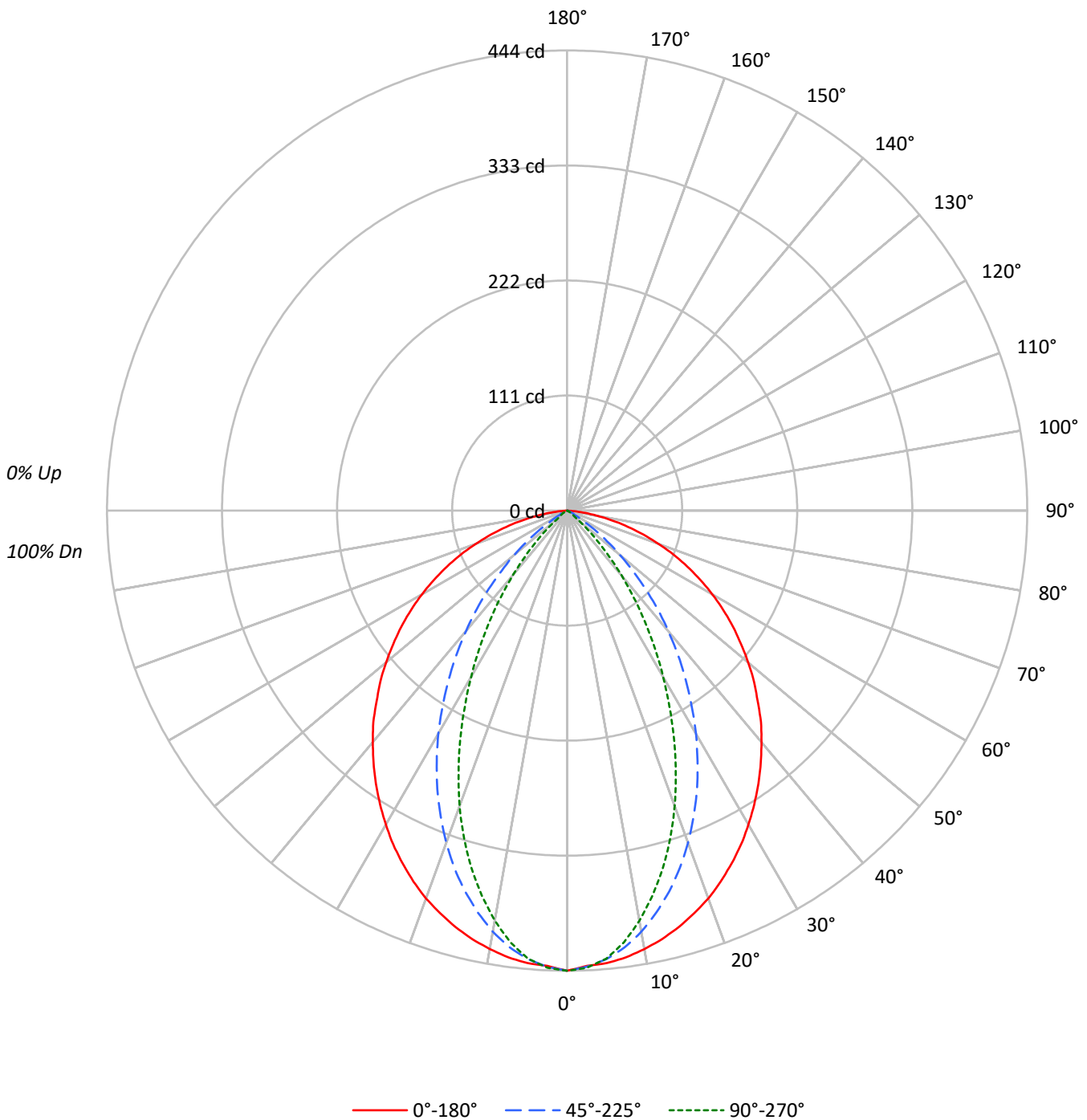
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 620.5 lumens  
Efficiency: N/A  
Efficacy: 49.2 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): 12.6  
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: P1056010

CATALOG NUMBER: S124R3DR-S350D835-X4F0-XX-UDD-F-B

### Luminous Intensity Polar Plot



TEST NUMBER: P1056010

CATALOG NUMBER: S124R3DR-S350D835-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°	3926	3926	3926
5°	3890	3855	3852
10°	3857	3704	3606
15°	3809	3482	3267
20°	3748	3210	2855
25°	3664	2891	2382
30°	3572	2537	1893
35°	3472	2151	1410
40°	3366	1753	939
45°	3248	1339	516
50°	3137	916	143
55°	3012	496	94
60°	2863	154	53
65°	2678	100	27
70°	2420	44	10
75°	2080	14	0
80°	1573	0	0
85°	659	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3248 cd/sqm



TEST NUMBER: P1056010

CATALOG NUMBER: S124R3DR-S350D835-X4F0-XX-UDD-F-B

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.0	6.6
10°-20°	107.5	17.3
20°-30°	138.9	22.4
30°-40°	132.8	21.4
40°-50°	99.3	16.0
50°-60°	59.1	9.5
60°-70°	30.0	4.8
70°-80°	10.4	1.7
80°-90°	1.4	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°	287.4	46.3
0°-40°	420.2	67.7
0°-60°	578.6	93.3
0°-90°	620.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	620.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	444	444	444	444	444	
5°	438	442	434	432	434	42
15°	416	407	380	363	357	117
25°	376	350	296	257	244	173
35°	322	277	199	148	131	201
45°	260	199	107	57	41	201
55°	195	121	32	7	6	174
65°	128	49	5	2	1	127
75°	61	6	0	0	0	65
85°	6	0	0	0	0	11
90°	0	0	0	0	0	



TEST NUMBER: P1056010

CATALOG NUMBER: S124R3DR-S350D835-X4F0-XX-UDD-F-B

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	444.0	444.0	444.0	444.0	444.0
2.5°	439.6	444.8	440.5	440.9	441.4
5°	438.3	441.8	434.4	432.2	434.0
7.5°	434.8	436.1	425.2	419.6	420.0
10°	429.6	428.3	412.6	403.0	401.7
12.5°	423.5	419.2	397.4	383.5	380.4
15°	416.1	407.4	380.4	362.6	356.9
17.5°	407.4	394.8	361.7	338.2	331.2
20°	398.3	380.9	341.2	312.1	303.4
22.5°	387.4	365.2	319.0	284.7	273.8
25°	375.6	349.5	296.4	257.2	244.2
27.5°	363.4	332.5	272.5	229.4	214.1
30°	349.9	314.7	248.5	201.1	185.4
32.5°	336.0	296.4	223.7	175.0	157.6
35°	321.7	277.3	199.3	148.4	130.6
37.5°	306.9	258.1	175.8	123.2	104.9
40°	291.6	238.5	151.9	99.2	81.4
42.5°	276.8	218.9	129.3	76.6	60.1
45°	259.8	199.3	107.1	57.0	41.3
47.5°	244.6	180.2	85.7	38.7	24.4
50°	228.1	159.7	66.6	22.6	10.4
52.5°	211.5	140.6	48.7	10.0	7.8
55°	195.4	121.4	32.2	7.4	6.1
57.5°	178.5	102.3	17.4	5.7	4.4
60°	161.9	83.6	8.7	4.4	3.0
62.5°	144.9	65.7	7.0	2.6	1.7
65°	128.0	49.2	4.8	1.7	1.3
67.5°	111.0	33.5	3.0	0.9	0.4
70°	93.6	20.5	1.7	0.4	0.4
72.5°	77.0	10.4	0.9	0.4	0.4
75°	60.9	6.5	0.4	0.4	0.0
77.5°	45.3	3.5	0.4	0.4	0.0
80°	30.9	1.3	0.0	0.0	0.0
82.5°	17.8	0.4	0.0	0.0	0.0
85°	6.5	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: P1056010  
 CATALOG NUMBER: S124R3DR-S350D835-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	15.21	16.54	15.57	16.85	17.16	0.00	0.00	0.00	0.00	0.00
	3H	16.75	17.93	17.13	18.26	18.62	0.00	0.00	0.00	0.00	0.00
	4H	17.34	18.44	17.75	18.79	19.17	0.00	0.00	0.00	0.00	0.00
	6H	17.76	18.77	18.18	19.14	19.53	0.00	0.00	0.00	0.00	0.00
	8H	17.86	18.81	18.29	19.20	19.61	0.00	0.00	0.00	0.00	0.00
	12H	17.88	18.79	18.31	19.17	19.60	0.00	0.00	0.00	0.00	0.00
4H	2H	14.99	16.08	15.39	16.43	16.81	0.00	0.00	0.00	0.00	0.00
	3H	16.55	17.44	16.96	17.85	18.25	0.00	0.00	0.00	0.00	0.00
	4H	17.13	17.93	17.57	18.35	18.79	0.00	0.00	0.00	0.00	0.00
	6H	17.59	18.28	18.05	18.72	19.19	0.00	0.00	0.00	0.00	0.00
	8H	17.71	18.35	18.18	18.80	19.27	0.00	0.00	0.00	0.00	0.00
	12H	17.75	18.32	18.24	18.80	19.27	0.00	0.00	0.00	0.00	0.00
8H	4H	16.99	17.64	17.46	18.08	18.55	0.00	0.00	0.00	0.00	0.00
	6H	17.44	17.96	17.94	18.45	18.94	0.00	0.00	0.00	0.00	0.00
	8H	17.55	18.02	18.07	18.54	19.03	0.00	0.00	0.00	0.00	0.00
	12H	17.60	18.01	18.12	18.51	19.08	0.00	0.00	0.00	0.00	0.00
12H	4H	16.95	17.51	17.44	18.00	18.47	0.00	0.00	0.00	0.00	0.00
	6H	17.37	17.84	17.90	18.36	18.85	0.00	0.00	0.00	0.00	0.00
	8H	17.51	17.92	18.02	18.42	18.99	0.00	0.00	0.00	0.00	0.00