

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: P1056146

Luminaire Tested: S124R3DR-H350D835-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1056146  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124R3DR-H350D835-X4F0-XX-UDD-F-S  
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

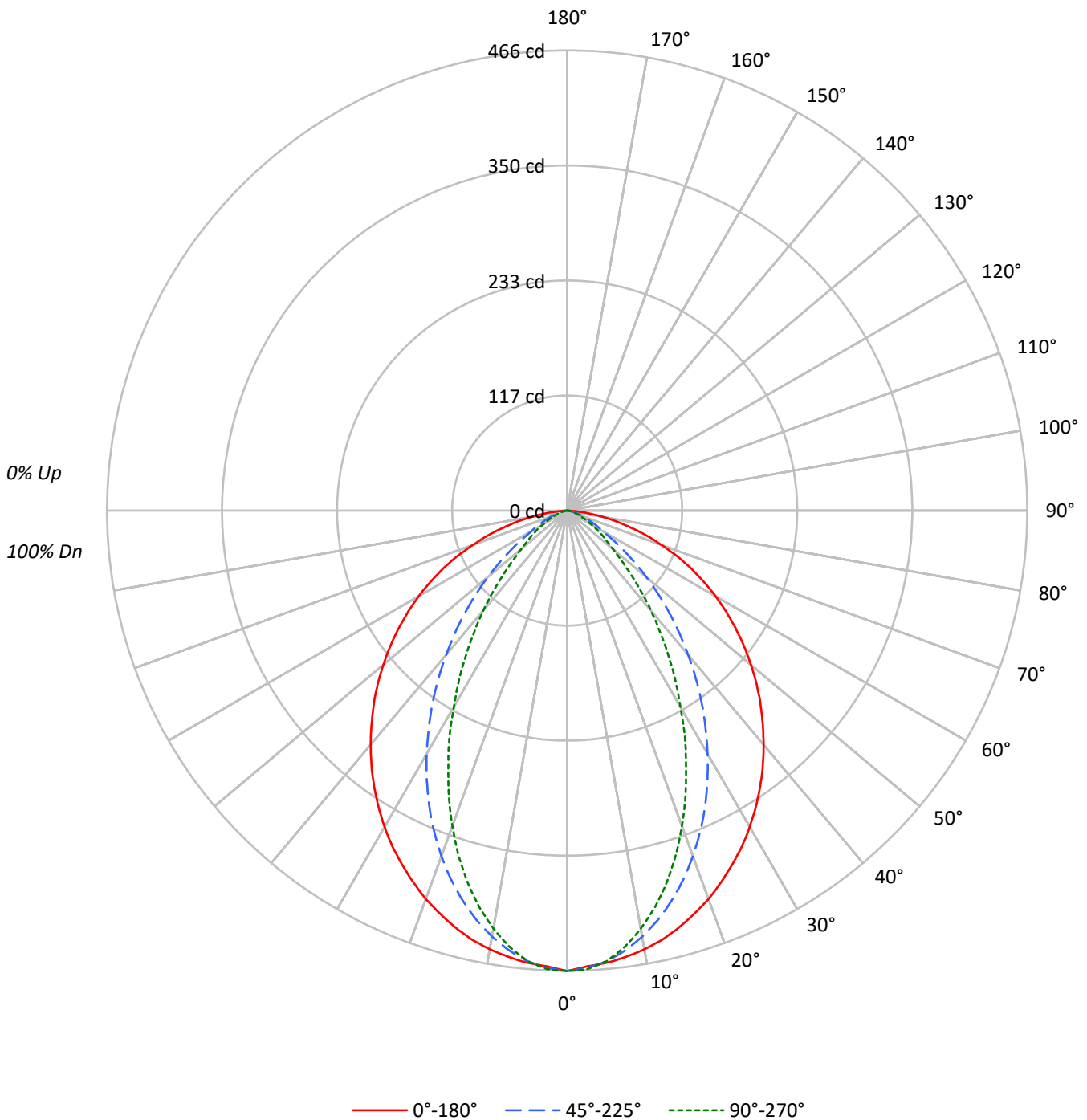
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 754.0 lumens  
Efficiency: N/A  
Efficacy: 64.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03  
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 (Ain): 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: P1056146

CATALOG NUMBER: S124R3DR-H350D835-X4F0-XX-UDD-F-S

### Luminous Intensity Polar Plot





TEST NUMBER: P1056146

CATALOG NUMBER: S124R3DR-H350D835-X4F0-XX-UDD-F-S

**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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	89
2	103	96	91	86	101	94	89	85	91	87	83	88	84	81	85	82	79	78
3	95	87	80	74	93	85	79	74	82	77	73	80	75	71	77	73	70	68
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	71	66	62	60
5	82	71	64	58	80	70	63	58	68	62	57	66	61	56	65	60	56	54
6	77	65	57	52	75	64	57	52	63	56	51	61	55	51	60	54	50	48
7	72	60	52	47	70	59	52	47	58	51	46	56	50	46	55	50	46	44
8	67	55	48	42	66	55	47	42	53	47	42	52	46	42	51	46	42	40
9	63	51	44	39	62	51	44	39	50	43	39	49	43	38	48	42	38	37
10	60	48	41	36	59	47	40	36	46	40	36	45	40	35	45	39	35	34

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

	0°	45°	90°
0°	4123	4123	4123
5°	4081	4066	4066
10°	4050	3933	3860
15°	4002	3744	3569
20°	3939	3505	3199
25°	3858	3223	2778
30°	3776	2903	2341
35°	3678	2563	1927
40°	3573	2200	1519
45°	3463	1829	1134
50°	3344	1439	831
55°	3212	1064	663
60°	3071	737	507
65°	2889	573	372
70°	2616	403	292
75°	2285	280	222
80°	1833	219	199
85°	1014	172	172

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3463 cd/sqm



TEST NUMBER: P1056146

CATALOG NUMBER: S124R3DR-H350D835-X4F0-XX-UDD-F-S

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.3	5.7
10°-20°	115.6	15.3
20°-30°	154.1	20.4
30°-40°	155.2	20.6
40°-50°	127.3	16.9
50°-60°	87.0	11.5
60°-70°	48.6	6.4
70°-80°	19.3	2.6
80°-90°	3.7	0.5
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°	313.0	41.5
0°-40°	468.2	62.1
0°-60°	682.5	90.5
0°-90°	754.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	754.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	466	466	466	466	466	
5°	460	465	458	456	458	44
15°	437	432	409	395	390	123
25°	396	376	330	297	285	182
35°	341	305	238	192	178	213
45°	277	226	146	103	91	214
55°	208	146	69	46	43	186
65°	138	70	27	20	18	136
75°	67	18	8	7	6	72
85°	10	2	2	2	2	14
90°	0	0	0	0	0	



TEST NUMBER: P1056146

CATALOG NUMBER: S124R3DR-H350D835-X4F0-XX-UDD-F-S

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	466.3	466.3	466.3	466.3	466.3
2.5°	462.0	467.6	463.7	464.2	465.0
5°	459.8	465.0	458.1	455.9	458.1
7.5°	455.9	459.8	449.4	445.0	445.9
10°	451.1	452.4	438.1	430.7	429.9
12.5°	445.0	443.3	424.6	413.8	411.2
15°	437.2	432.5	409.0	394.7	389.9
17.5°	428.1	419.9	391.6	373.0	366.0
20°	418.6	406.4	372.5	348.7	340.0
22.5°	407.3	392.1	352.1	323.0	313.1
25°	395.5	376.0	330.4	297.0	284.8
27.5°	383.4	359.5	307.8	270.5	258.3
30°	369.9	341.7	284.4	244.0	229.3
32.5°	355.6	323.5	260.9	218.0	204.1
35°	340.8	304.8	237.5	192.3	178.5
37.5°	325.6	285.7	214.1	168.0	154.1
40°	309.6	266.2	190.6	145.0	131.6
42.5°	293.1	246.2	168.0	123.3	110.7
45°	277.0	226.2	146.3	102.9	90.7
47.5°	260.1	206.2	125.0	83.8	73.4
50°	243.1	186.3	104.6	67.3	60.4
52.5°	225.8	166.3	86.0	55.1	50.4
55°	208.4	146.3	69.0	46.0	43.0
57.5°	191.0	126.3	53.4	39.1	35.6
60°	173.7	106.8	41.7	31.7	28.7
62.5°	155.9	87.3	34.3	25.2	22.6
65°	138.1	69.5	27.4	19.5	17.8
67.5°	120.3	53.0	20.8	15.2	13.9
70°	101.2	37.8	15.6	11.7	11.3
72.5°	84.7	25.6	11.3	9.1	8.7
75°	66.9	18.2	8.2	6.9	6.5
77.5°	51.7	11.7	6.1	5.6	5.2
80°	36.0	6.5	4.3	3.9	3.9
82.5°	22.1	3.5	3.0	2.6	2.6
85°	10.0	1.7	1.7	1.7	1.7
87.5°	1.7	0.9	0.9	0.9	0.9
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P1056146  
 CATALOG NUMBER: S124R3DR-H350D835-X4F0-XX-UDD-F-S

**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	15.64	17.05	16.01	17.36	17.68	6.74	8.15	7.10	8.46	8.77
	3H	17.23	18.48	17.61	18.81	19.18	7.33	8.58	7.71	8.91	9.27
	4H	17.83	19.00	18.23	19.35	19.73	7.49	8.65	7.89	9.00	9.39
	6H	18.26	19.33	18.67	19.70	20.10	7.59	8.67	8.01	9.04	9.43
	8H	18.37	19.39	18.80	19.78	20.19	7.61	8.63	8.04	9.02	9.43
	12H	18.41	19.39	18.85	19.77	20.20	7.62	8.59	8.05	8.98	9.41
4H	2H	15.50	16.67	15.90	17.02	17.40	7.32	8.49	7.72	8.84	9.22
	3H	17.15	18.11	17.56	18.51	18.91	8.03	8.99	8.45	9.40	9.80
	4H	17.75	18.61	18.19	19.03	19.47	8.24	9.09	8.67	9.51	9.95
	6H	18.25	18.99	18.71	19.43	19.90	8.40	9.14	8.86	9.59	10.05
	8H	18.39	19.08	18.85	19.53	19.99	8.43	9.12	8.90	9.57	10.04
	12H	18.46	19.07	18.95	19.56	20.03	8.46	9.07	8.94	9.55	10.02
8H	4H	17.65	18.34	18.11	18.78	19.25	8.51	9.20	8.97	9.64	10.11
	6H	18.13	18.69	18.63	19.19	19.67	8.71	9.27	9.21	9.77	10.25
	8H	18.27	18.78	18.79	19.29	19.78	8.76	9.27	9.28	9.79	10.28
	12H	18.36	18.81	18.87	19.30	19.87	8.82	9.27	9.33	9.76	10.33
12H	4H	17.61	18.22	18.09	18.70	19.17	8.53	9.15	9.02	9.63	10.10
	6H	18.07	18.58	18.59	19.09	19.58	8.74	9.24	9.25	9.76	10.25
	8H	18.24	18.68	18.75	19.18	19.75	8.83	9.28	9.34	9.77	10.34