

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: P1056161

Luminaire Tested: S124R3DR-H350D935-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1056161  
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-H350D935-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, 90 CRI LEDS  
Ballast/Driver: -

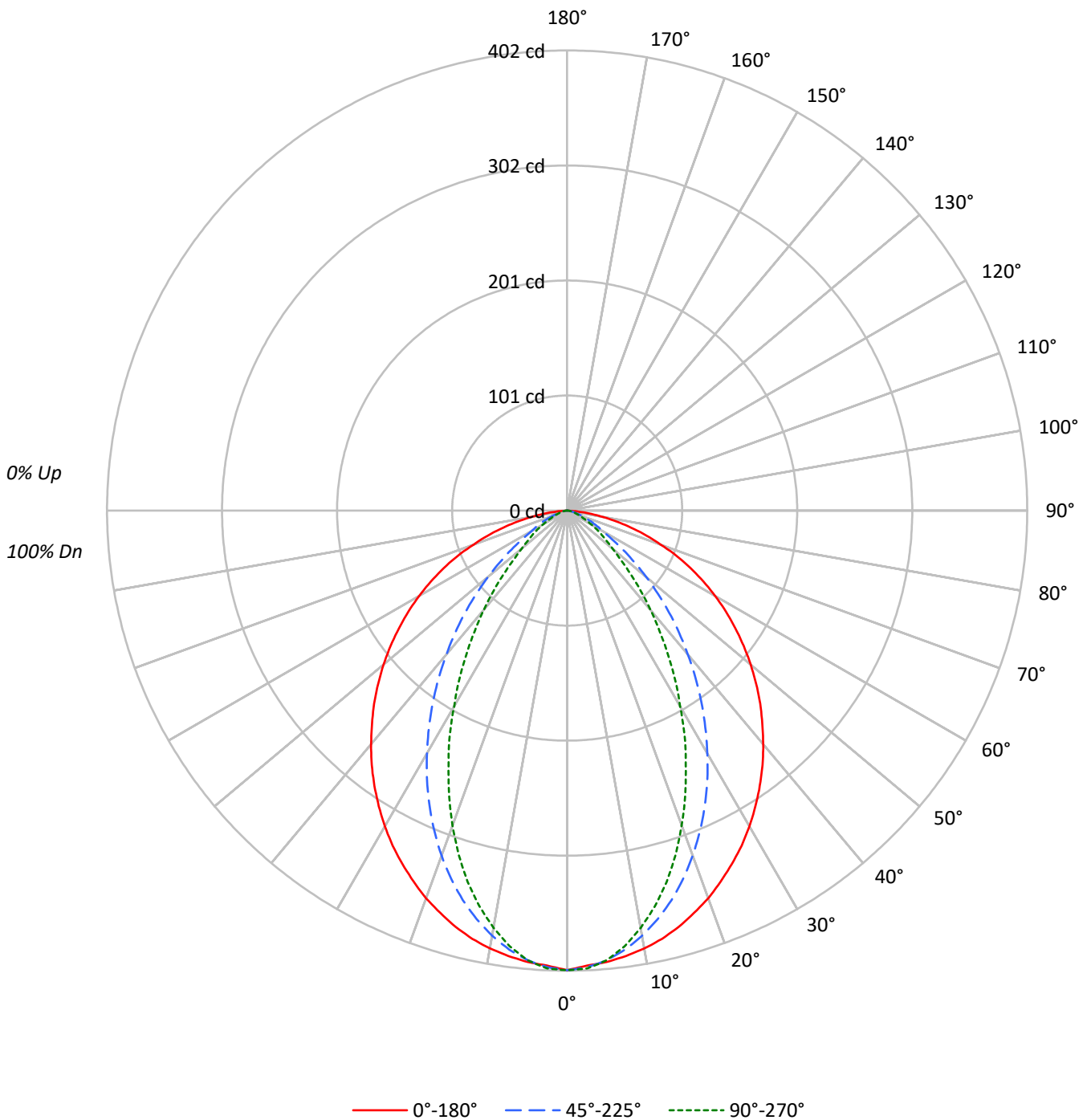
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 649.2 lumens  
Efficiency: N/A  
Efficacy: 55.5 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 (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	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°	3550	3550	3550
5°	3514	3500	3500
10°	3487	3386	3323
15°	3446	3224	3073
20°	3391	3018	2754
25°	3323	2775	2392
30°	3252	2500	2015
35°	3168	2207	1658
40°	3076	1894	1308
45°	2982	1575	977
50°	2879	1239	715
55°	2765	916	570
60°	2644	635	437
65°	2487	494	320
70°	2252	349	251
75°	1968	243	191
80°	1578	188	173
85°	872	152	152

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2982 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	37.2	5.7
10°-20°	99.5	15.3
20°-30°	132.7	20.4
30°-40°	133.6	20.6
40°-50°	109.6	16.9
50°-60°	74.9	11.5
60°-70°	41.9	6.4
70°-80°	16.6	2.6
80°-90°	3.1	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°	269.5	41.5
0°-40°	403.1	62.1
0°-60°	587.6	90.5
0°-90°	649.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	649.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	402	402	402	402	402	
5°	396	400	394	392	394	38
15°	376	372	352	340	336	106
25°	341	324	284	256	245	157
35°	294	262	204	166	154	184
45°	238	195	126	89	78	184
55°	179	126	59	40	37	160
65°	119	60	24	17	15	117
75°	58	16	7	6	6	62
85°	9	2	2	2	2	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	401.5	401.5	401.5	401.5	401.5
2.5°	397.8	402.6	399.3	399.6	400.4
5°	395.9	400.4	394.4	392.5	394.4
7.5°	392.5	395.9	386.9	383.2	383.9
10°	388.4	389.5	377.2	370.8	370.1
12.5°	383.2	381.7	365.6	356.3	354.0
15°	376.5	372.3	352.2	339.8	335.7
17.5°	368.6	361.5	337.2	321.1	315.1
20°	360.4	349.9	320.8	300.2	292.7
22.5°	350.7	337.6	303.2	278.1	269.5
25°	340.6	323.7	284.5	255.7	245.2
27.5°	330.1	309.5	265.1	232.9	222.4
30°	318.5	294.2	244.9	210.1	197.4
32.5°	306.2	278.5	224.7	187.7	175.7
35°	293.5	262.4	204.5	165.6	153.6
37.5°	280.4	246.0	184.3	144.7	132.7
40°	266.5	229.2	164.1	124.9	113.3
42.5°	252.3	212.0	144.7	106.2	95.3
45°	238.5	194.8	126.0	88.6	78.1
47.5°	223.9	177.6	107.7	72.2	63.2
50°	209.3	160.4	90.1	57.9	52.0
52.5°	194.4	143.2	74.0	47.5	43.4
55°	179.4	126.0	59.4	39.6	37.0
57.5°	164.5	108.8	46.0	33.6	30.7
60°	149.5	92.0	35.9	27.3	24.7
62.5°	134.2	75.1	29.5	21.7	19.4
65°	118.9	59.8	23.6	16.8	15.3
67.5°	103.6	45.6	17.9	13.1	12.0
70°	87.1	32.5	13.5	10.1	9.7
72.5°	72.9	22.1	9.7	7.9	7.5
75°	57.6	15.7	7.1	6.0	5.6
77.5°	44.5	10.1	5.2	4.9	4.5
80°	31.0	5.6	3.7	3.4	3.4
82.5°	19.1	3.0	2.6	2.2	2.2
85°	8.6	1.5	1.5	1.5	1.5
87.5°	1.5	0.7	0.7	0.7	0.7
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	15.13	16.53	15.49	16.85	17.16	6.21	7.62	6.58	7.93	8.24
	3H	16.71	17.96	17.09	18.29	18.66	6.80	8.06	7.18	8.39	8.75
	4H	17.31	18.48	17.71	18.83	19.21	6.96	8.13	7.36	8.48	8.86
	6H	17.74	18.81	18.15	19.18	19.58	7.07	8.15	7.49	8.52	8.91
	8H	17.85	18.87	18.28	19.26	19.67	7.09	8.11	7.52	8.50	8.91
	12H	17.90	18.87	18.33	19.25	19.68	7.10	8.07	7.53	8.46	8.89
4H	2H	14.98	16.15	15.38	16.50	16.88	6.80	7.97	7.20	8.32	8.70
	3H	16.63	17.59	17.04	17.99	18.39	7.51	8.47	7.92	8.87	9.28
	4H	17.23	18.09	17.67	18.51	18.95	7.72	8.57	8.15	8.99	9.43
	6H	17.73	18.47	18.19	18.91	19.38	7.89	8.63	8.35	9.07	9.54
	8H	17.87	18.56	18.34	19.01	19.48	7.92	8.61	8.39	9.06	9.53
	12H	17.94	18.56	18.43	19.04	19.51	7.94	8.56	8.43	9.04	9.51
8H	4H	17.13	17.82	17.59	18.27	18.73	7.99	8.68	8.45	9.13	9.60
	6H	17.61	18.17	18.11	18.67	19.15	8.19	8.76	8.70	9.26	9.74
	8H	17.75	18.26	18.27	18.77	19.27	8.25	8.76	8.77	9.27	9.76
	12H	17.84	18.29	18.36	18.79	19.36	8.31	8.76	8.82	9.25	9.82
12H	4H	17.09	17.70	17.57	18.18	18.66	8.01	8.63	8.50	9.11	9.58
	6H	17.55	18.06	18.07	18.58	19.07	8.22	8.73	8.74	9.25	9.74
	8H	17.72	18.17	18.23	18.66	19.23	8.31	8.76	8.83	9.26	9.82