

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: P1056158

Luminaire Tested: S124R3DR-H350D930-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1056158  
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-H350D930-X4F0-XX-UDD-F-S  
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

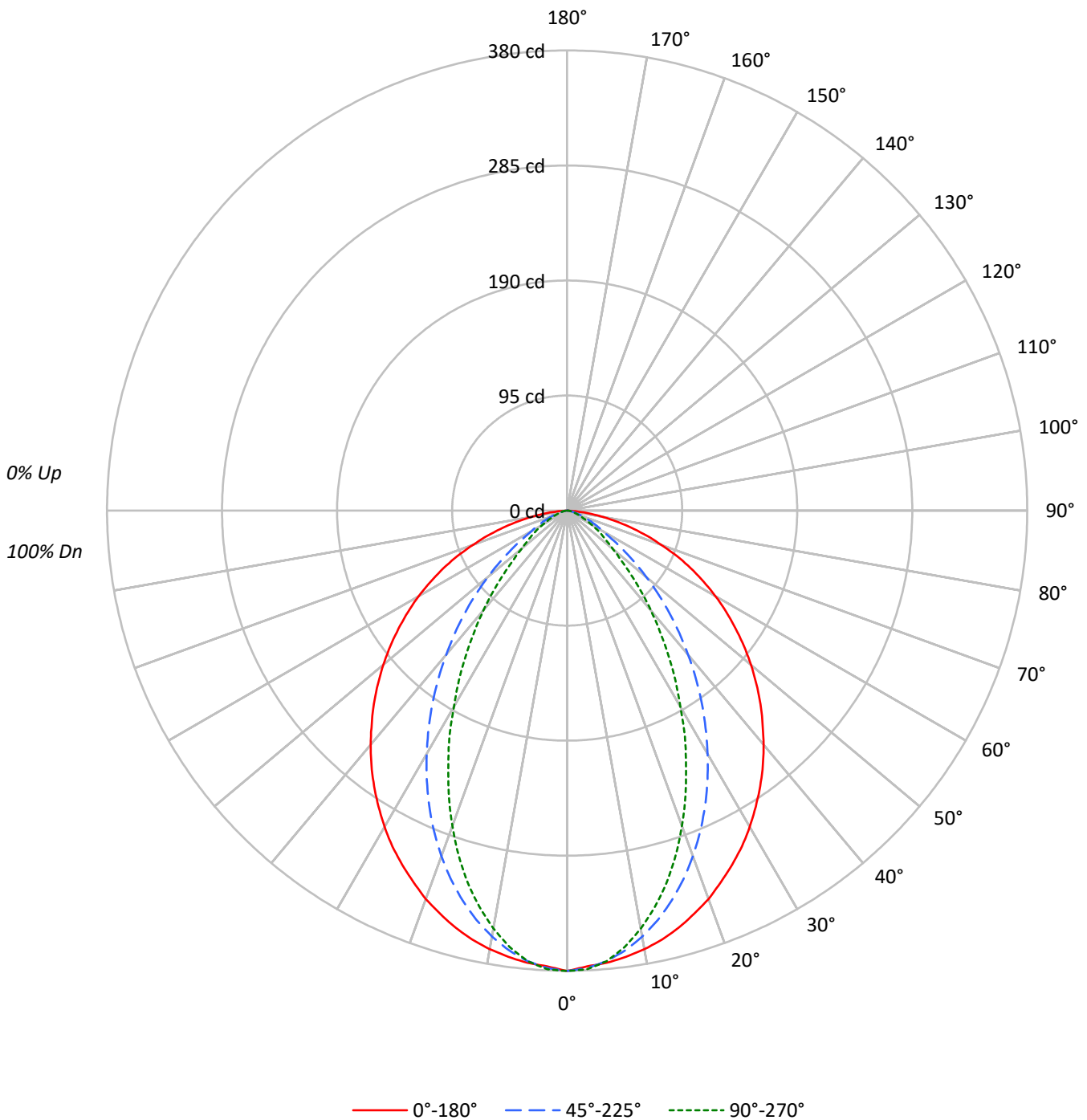
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 614.7 lumens  
Efficiency: N/A  
Efficacy: 52.5 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	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					100			
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	89					89			
2	103	96	91	86	101	94	89	85	91	87	83	88	84	81	85	82	79	78					78			
3	95	87	80	74	93	85	79	74	82	77	73	80	75	71	77	73	70	68					68			
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	71	66	62	60					60			
5	82	71	64	58	80	70	63	58	68	62	57	66	61	56	65	60	56	54					54			
6	77	65	57	52	75	64	57	52	63	56	51	61	55	51	60	54	50	48					48			
7	72	60	52	47	70	59	52	47	58	51	46	56	50	46	55	50	46	44					44			
8	67	55	48	42	66	55	47	42	53	47	42	52	46	42	51	46	42	40					40			
9	63	51	44	39	62	51	44	39	50	43	39	49	43	38	48	42	38	37					37			
10	60	48	41	36	59	47	40	36	46	40	36	45	40	35	45	39	35	34					34			

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

	0°	45°	90°
0°	3361	3361	3361
5°	3327	3315	3315
10°	3302	3207	3147
15°	3263	3053	2910
20°	3211	2857	2608
25°	3146	2628	2265
30°	3079	2368	1908
35°	2999	2090	1570
40°	2913	1794	1238
45°	2823	1492	925
50°	2726	1173	677
55°	2619	868	540
60°	2504	601	414
65°	2356	467	303
70°	2133	328	238
75°	1862	229	181
80°	1497	178	163
85°	822	142	142

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2823 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	35.3	5.7
10°-20°	94.2	15.3
20°-30°	125.7	20.4
30°-40°	126.5	20.6
40°-50°	103.8	16.9
50°-60°	70.9	11.5
60°-70°	39.6	6.4
70°-80°	15.7	2.6
80°-90°	3.0	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°	255.2	41.5
0°-40°	381.7	62.1
0°-60°	556.4	90.5
0°-90°	614.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	614.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	380	380	380	380	380	
5°	375	379	374	372	374	36
15°	356	353	334	322	318	100
25°	322	307	269	242	232	149
35°	278	248	194	157	146	174
45°	226	184	119	84	74	174
55°	170	119	56	38	35	152
65°	113	57	22	16	14	111
75°	54	15	7	6	5	58
85°	8	1	1	1	1	11
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	380.2	380.2	380.2	380.2	380.2
2.5°	376.7	381.3	378.1	378.4	379.1
5°	374.9	379.1	373.5	371.7	373.5
7.5°	371.7	374.9	366.4	362.8	363.6
10°	367.8	368.9	357.2	351.2	350.5
12.5°	362.8	361.4	346.2	337.4	335.2
15°	356.5	352.6	333.5	321.8	317.9
17.5°	349.0	342.3	319.3	304.1	298.4
20°	341.3	331.3	303.7	284.3	277.2
22.5°	332.0	319.7	287.1	263.4	255.2
25°	322.5	306.6	269.4	242.1	232.2
27.5°	312.6	293.1	251.0	220.5	210.6
30°	301.6	278.6	231.9	198.9	186.9
32.5°	289.9	263.7	212.8	177.7	166.4
35°	277.9	248.5	193.6	156.8	145.5
37.5°	265.5	232.9	174.5	137.0	125.7
40°	252.4	217.0	155.4	118.2	107.3
42.5°	238.9	200.7	137.0	100.5	90.3
45°	225.8	184.4	119.3	83.9	74.0
47.5°	212.0	168.1	102.0	68.3	59.8
50°	198.2	151.9	85.3	54.9	49.2
52.5°	184.1	135.6	70.1	45.0	41.1
55°	169.9	119.3	56.3	37.5	35.0
57.5°	155.8	103.0	43.5	31.9	29.0
60°	141.6	87.1	34.0	25.8	23.4
62.5°	127.1	71.2	28.0	20.5	18.4
65°	112.6	56.6	22.3	15.9	14.5
67.5°	98.1	43.2	17.0	12.4	11.3
70°	82.5	30.8	12.7	9.6	9.2
72.5°	69.0	20.9	9.2	7.4	7.1
75°	54.5	14.9	6.7	5.7	5.3
77.5°	42.1	9.6	5.0	4.6	4.2
80°	29.4	5.3	3.5	3.2	3.2
82.5°	18.1	2.8	2.5	2.1	2.1
85°	8.1	1.4	1.4	1.4	1.4
87.5°	1.4	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	14.94	16.34	15.30	16.66	16.97	6.03	7.44	6.40	7.75	8.07
	3H	16.52	17.77	16.90	18.10	18.47	6.62	7.87	7.00	8.20	8.57
	4H	17.12	18.29	17.52	18.64	19.02	6.78	7.95	7.18	8.30	8.68
	6H	17.55	18.62	17.96	18.99	19.39	6.89	7.96	7.30	8.33	8.72
	8H	17.66	18.68	18.09	19.07	19.48	6.90	7.93	7.33	8.32	8.72
	12H	17.71	18.68	18.14	19.06	19.49	6.91	7.89	7.34	8.27	8.70
4H	2H	14.79	15.96	15.19	16.31	16.69	6.61	7.78	7.02	8.13	8.51
	3H	16.44	17.40	16.85	17.80	18.20	7.33	8.28	7.74	8.69	9.09
	4H	17.04	17.90	17.48	18.32	18.76	7.53	8.39	7.96	8.81	9.25
	6H	17.54	18.28	18.00	18.72	19.19	7.70	8.44	8.16	8.88	9.35
	8H	17.68	18.37	18.15	18.82	19.29	7.73	8.42	8.19	8.87	9.33
	12H	17.75	18.37	18.24	18.85	19.32	7.75	8.36	8.24	8.85	9.32
8H	4H	16.94	17.63	17.40	18.08	18.54	7.80	8.49	8.27	8.94	9.41
	6H	17.42	17.99	17.92	18.48	18.96	8.00	8.57	8.50	9.07	9.55
	8H	17.56	18.07	18.08	18.58	19.08	8.06	8.57	8.58	9.08	9.57
	12H	17.65	18.10	18.17	18.60	19.17	8.12	8.57	8.63	9.06	9.63
12H	4H	16.90	17.51	17.38	17.99	18.47	7.83	8.44	8.31	8.92	9.40
	6H	17.36	17.87	17.88	18.39	18.88	8.03	8.54	8.55	9.06	9.55
	8H	17.53	17.98	18.04	18.47	19.04	8.12	8.57	8.64	9.07	9.64