

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: P1056029

Luminaire Tested: S124R3DR-S350D940-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1056029  
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-S350D940-X4F0-XX-UDD-F-S  
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

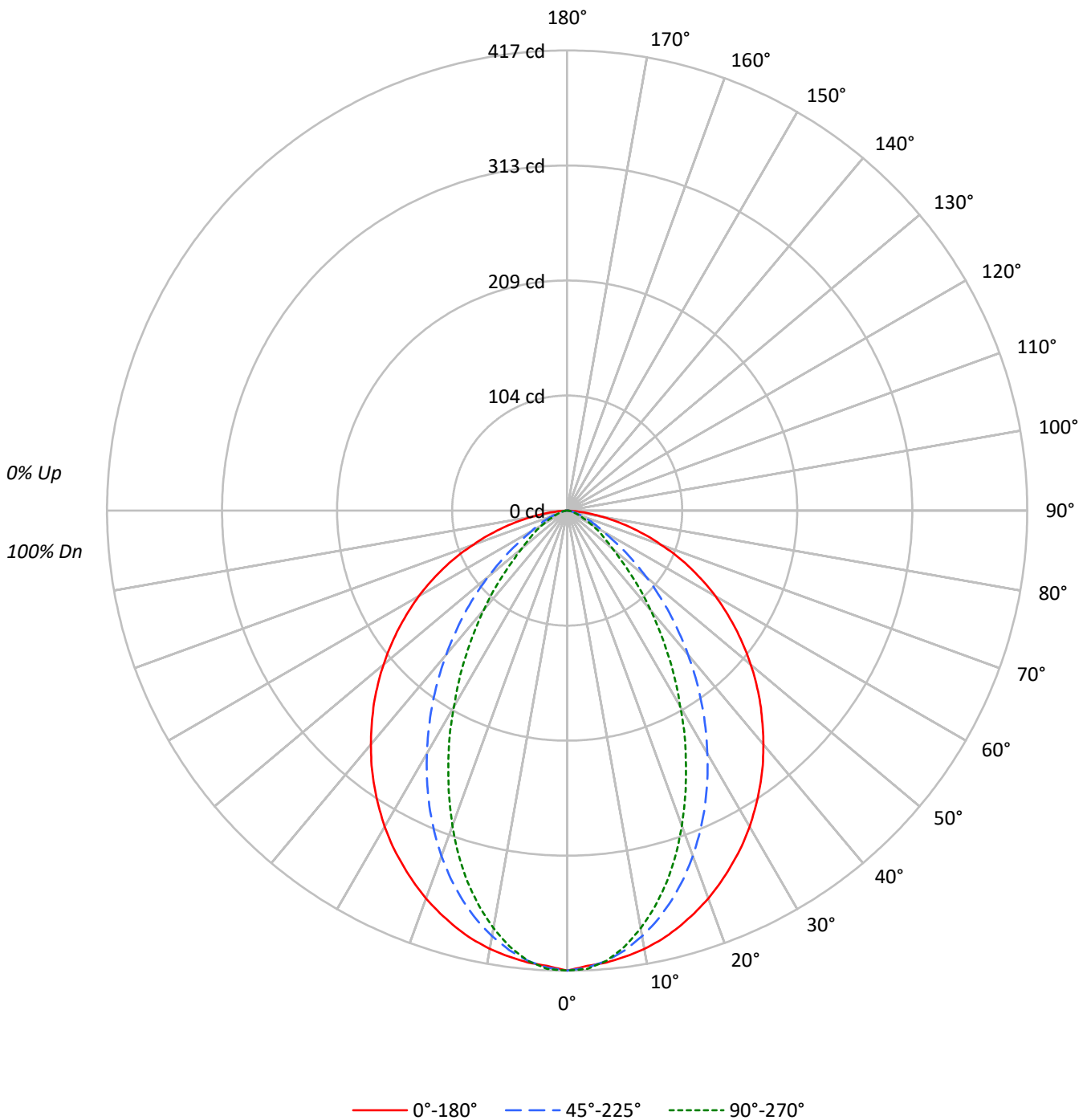
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 674.0 lumens  
Efficiency: N/A  
Efficacy: 53.5 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): 12.6  
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

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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°	3685	3685	3685
5°	3648	3634	3634
10°	3621	3516	3449
15°	3577	3346	3190
20°	3521	3133	2859
25°	3450	2882	2484
30°	3376	2595	2092
35°	3289	2291	1722
40°	3194	1967	1357
45°	3096	1635	1014
50°	2989	1286	741
55°	2872	951	592
60°	2744	660	453
65°	2582	513	333
70°	2337	362	261
75°	2043	253	198
80°	1639	199	178
85°	903	162	162

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3096 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.7	5.7
10°-20°	103.3	15.3
20°-30°	137.8	20.4
30°-40°	138.7	20.6
40°-50°	113.8	16.9
50°-60°	77.8	11.5
60°-70°	43.5	6.4
70°-80°	17.2	2.6
80°-90°	3.3	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°	279.8	41.5
0°-40°	418.5	62.1
0°-60°	610.1	90.5
0°-90°	674.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	674.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	417	417	417	417	417	
5°	411	416	410	408	410	39
15°	391	387	366	353	348	110
25°	354	336	295	266	255	163
35°	305	272	212	172	160	191
45°	248	202	131	92	81	191
55°	186	131	62	41	38	167
65°	123	62	24	18	16	122
75°	60	16	7	6	6	64
85°	9	2	2	2	2	13
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	416.8	416.8	416.8	416.8	416.8
2.5°	413.0	418.0	414.5	414.9	415.7
5°	411.0	415.7	409.5	407.5	409.5
7.5°	407.5	411.0	401.7	397.8	398.6
10°	403.3	404.4	391.6	385.0	384.2
12.5°	397.8	396.3	379.6	369.9	367.6
15°	390.8	386.6	365.6	352.8	348.5
17.5°	382.7	375.3	350.1	333.4	327.2
20°	374.2	363.3	333.0	311.7	303.9
22.5°	364.1	350.5	314.8	288.8	279.8
25°	353.6	336.1	295.4	265.5	254.6
27.5°	342.7	321.4	275.2	241.8	230.9
30°	330.7	305.5	254.2	218.1	204.9
32.5°	317.9	289.2	233.3	194.8	182.4
35°	304.7	272.5	212.3	171.9	159.5
37.5°	291.1	255.4	191.3	150.2	137.8
40°	276.7	237.9	170.4	129.6	117.6
42.5°	262.0	220.1	150.2	110.2	99.0
45°	247.6	202.2	130.8	92.0	81.1
47.5°	232.5	184.4	111.8	74.9	65.6
50°	217.3	166.5	93.5	60.2	53.9
52.5°	201.8	148.7	76.8	49.3	45.0
55°	186.3	130.8	61.7	41.1	38.4
57.5°	170.8	112.9	47.7	34.9	31.8
60°	155.2	95.5	37.3	28.3	25.6
62.5°	139.3	78.0	30.7	22.5	20.2
65°	123.4	62.1	24.5	17.5	15.9
67.5°	107.5	47.4	18.6	13.6	12.4
70°	90.4	33.8	14.0	10.5	10.1
72.5°	75.7	22.9	10.1	8.2	7.8
75°	59.8	16.3	7.4	6.2	5.8
77.5°	46.2	10.5	5.4	5.0	4.7
80°	32.2	5.8	3.9	3.5	3.5
82.5°	19.8	3.1	2.7	2.3	2.3
85°	8.9	1.6	1.6	1.6	1.6
87.5°	1.6	0.8	0.8	0.8	0.8
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	15.25	16.66	15.62	16.97	17.29	6.34	7.75	6.70	8.06	8.37
	3H	16.84	18.09	17.22	18.42	18.79	6.93	8.18	7.31	8.51	8.88
	4H	17.44	18.61	17.84	18.96	19.34	7.09	8.26	7.49	8.61	8.99
	6H	17.87	18.94	18.28	19.31	19.71	7.20	8.27	7.61	8.64	9.04
	8H	17.98	19.00	18.41	19.39	19.80	7.22	8.24	7.65	8.63	9.03
	12H	18.02	19.00	18.46	19.38	19.81	7.23	8.20	7.66	8.59	9.02
4H	2H	15.11	16.28	15.51	16.63	17.01	6.93	8.10	7.33	8.45	8.83
	3H	16.76	17.72	17.17	18.12	18.52	7.64	8.60	8.05	9.00	9.41
	4H	17.36	18.22	17.80	18.64	19.08	7.84	8.70	8.28	9.12	9.56
	6H	17.86	18.60	18.32	19.04	19.51	8.01	8.75	8.47	9.20	9.66
	8H	18.00	18.69	18.47	19.14	19.61	8.04	8.74	8.51	9.18	9.65
	12H	18.07	18.68	18.56	19.17	19.64	8.07	8.68	8.56	9.17	9.64
8H	4H	17.26	17.95	17.72	18.39	18.86	8.12	8.81	8.58	9.25	9.72
	6H	17.74	18.30	18.24	18.80	19.28	8.32	8.89	8.82	9.38	9.86
	8H	17.88	18.39	18.40	18.90	19.39	8.38	8.88	8.90	9.40	9.89
	12H	17.97	18.42	18.49	18.92	19.48	8.44	8.89	8.95	9.38	9.95
12H	4H	17.22	17.83	17.70	18.31	18.79	8.14	8.76	8.63	9.24	9.71
	6H	17.68	18.19	18.20	18.71	19.20	8.35	8.86	8.87	9.37	9.86
	8H	17.85	18.30	18.36	18.79	19.36	8.44	8.89	8.95	9.38	9.95