

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: P1055704

Luminaire Tested: S123R3DR-H1000D940-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055704  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-H1000D940-X4F0-XX-UDD-F-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

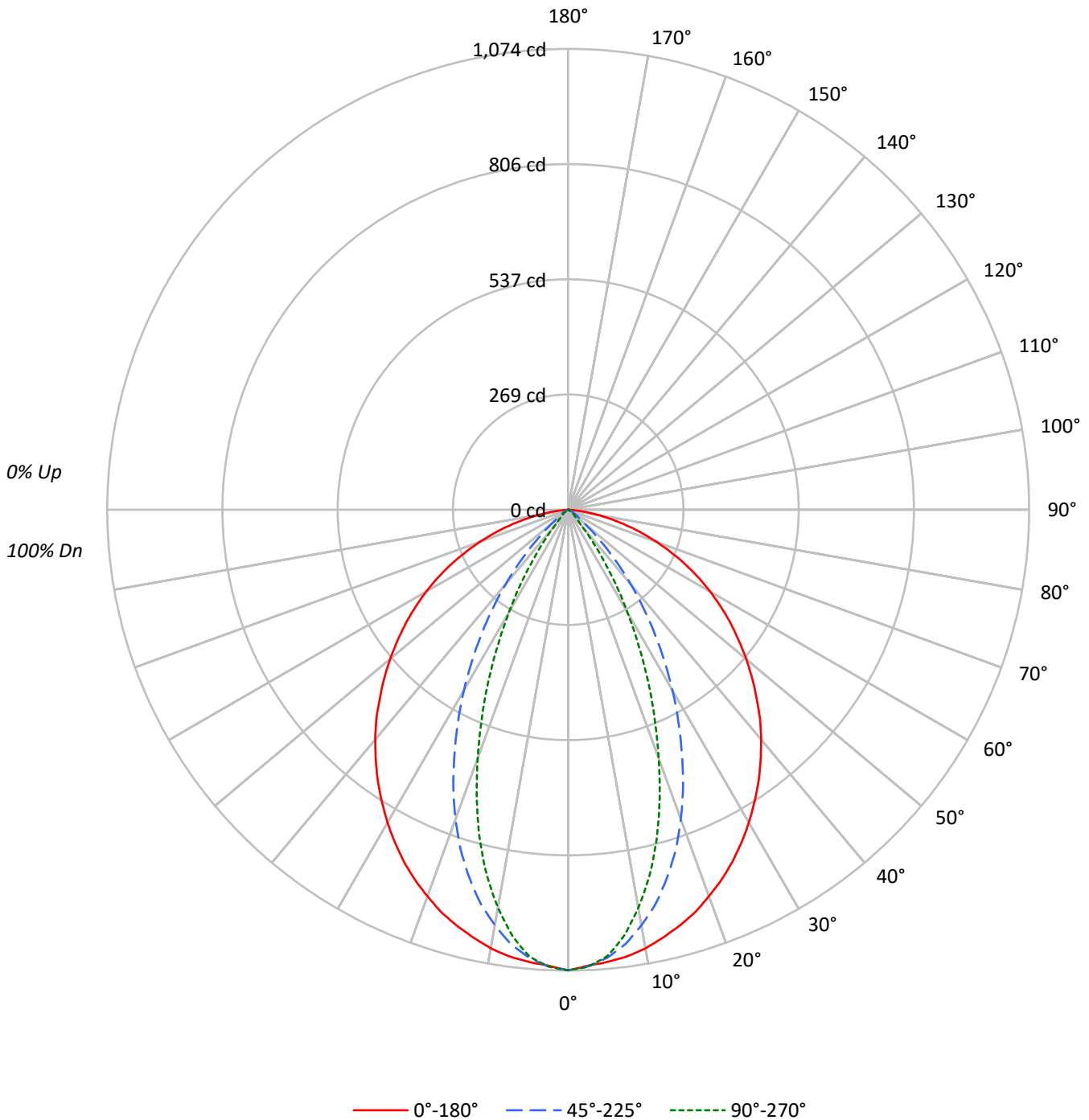
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1256.4 lumens  
Efficiency: N/A  
Efficacy: 40.7 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 30.9  
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: P1055704

CATALOG NUMBER: S123R3DR-H1000D940-X4F0-XX-UDD-F-B

### 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	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90					90			
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81					81			
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73					73			
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65					65			
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59					59			
6	81	70	63	58	79	69	62	57	67	61	57	66	61	56	64	60	56	54					54			
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50					50			
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46					46			
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43					43			
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40					40			

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

	0°	45°	90°
0°	12943	12943	12943
5°	12803	12682	12642
10°	12706	12038	11534
15°	12524	11092	9938
20°	12302	9845	7915
25°	12044	8341	5837
30°	11721	6759	3830
35°	11374	5147	2097
40°	11006	3558	719
45°	10576	2070	418
50°	10151	814	251
55°	9713	515	118
60°	9211	323	53
65°	8578	160	31
70°	7695	78	39
75°	6536	51	51
80°	4874	76	0
85°	1854	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10576 cd/sqm



TEST NUMBER: P1055704

CATALOG NUMBER: S123R3DR-H1000D940-X4F0-XX-UDD-F-B

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.4	7.8
10°-20°	249.8	19.9
20°-30°	298.0	23.7
30°-40°	252.7	20.1
40°-50°	171.8	13.7
50°-60°	106.5	8.5
60°-70°	53.9	4.3
70°-80°	22.0	1.7
80°-90°	3.4	0.3
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°	646.2	51.4
0°-40°	898.9	71.5
0°-60°	1177.1	93.7
0°-90°	1256.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1256.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1074	1074	1074	1074	1074	
5°	1058	1068	1048	1040	1045	100
15°	1003	978	889	818	796	283
25°	905	821	627	484	439	417
35°	773	620	350	188	142	483
45°	620	406	121	30	24	479
55°	462	205	24	9	6	413
65°	301	50	6	1	1	297
75°	140	9	1	1	1	149
85°	13	0	0	1	0	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1073.5	1073.5	1073.5	1073.5	1073.5
2.5°	1063.5	1078.0	1065.7	1064.6	1065.7
5°	1057.9	1067.9	1047.9	1040.1	1044.6
7.5°	1050.1	1054.6	1021.2	1001.1	1001.1
10°	1037.9	1034.5	983.3	949.9	942.1
12.5°	1021.2	1007.8	941.0	888.7	874.2
15°	1003.4	977.7	888.7	818.5	796.2
17.5°	983.3	944.3	831.9	740.5	708.3
20°	958.8	906.5	767.3	655.9	616.9
22.5°	933.2	865.3	699.3	569.1	525.6
25°	905.4	820.7	627.0	484.4	438.8
27.5°	874.2	774.0	555.7	403.1	353.0
30°	841.9	725.0	485.5	325.2	275.1
32.5°	807.4	673.7	415.4	253.9	207.1
35°	772.8	620.3	349.7	188.2	142.5
37.5°	736.1	566.8	286.2	130.3	90.2
40°	699.3	514.5	226.1	82.4	45.7
42.5°	661.5	459.9	171.5	41.2	31.2
45°	620.3	406.5	121.4	30.1	24.5
47.5°	581.3	355.2	80.2	24.5	18.9
50°	541.2	304.0	43.4	17.8	13.4
52.5°	501.1	255.0	31.2	13.4	8.9
55°	462.1	204.9	24.5	8.9	5.6
57.5°	422.1	161.5	18.9	5.6	3.3
60°	382.0	119.2	13.4	3.3	2.2
62.5°	341.9	82.4	8.9	2.2	1.1
65°	300.7	50.1	5.6	1.1	1.1
67.5°	258.4	34.5	3.3	1.1	1.1
70°	218.3	24.5	2.2	1.1	1.1
72.5°	178.2	15.6	1.1	1.1	0.0
75°	140.3	8.9	1.1	1.1	1.1
77.5°	103.6	3.3	1.1	1.1	0.0
80°	70.2	1.1	1.1	1.1	0.0
82.5°	39.0	0.0	1.1	1.1	0.0
85°	13.4	0.0	0.0	1.1	0.0
87.5°	0.0	0.0	0.0	1.1	0.0
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	17.94	19.23	18.31	19.54	19.85	0.00	0.00	0.00	0.00	0.00
	3H	19.89	21.02	20.27	21.35	21.72	0.00	0.00	0.00	0.00	0.00
	4H	20.72	21.77	21.12	22.12	22.51	0.00	0.00	0.00	0.00	0.00
	6H	21.27	22.24	21.69	22.61	23.01	0.00	0.00	0.00	0.00	0.00
	8H	21.40	22.31	21.83	22.71	23.11	0.00	0.00	0.00	0.00	0.00
	12H	21.42	22.30	21.85	22.68	23.11	0.00	0.00	0.00	0.00	0.00
4H	2H	17.71	18.76	18.11	19.12	19.50	0.00	0.00	0.00	0.00	0.00
	3H	19.66	20.52	20.07	20.93	21.33	0.00	0.00	0.00	0.00	0.00
	4H	20.47	21.24	20.91	21.66	22.11	0.00	0.00	0.00	0.00	0.00
	6H	21.08	21.74	21.54	22.19	22.65	0.00	0.00	0.00	0.00	0.00
	8H	21.23	21.85	21.70	22.29	22.77	0.00	0.00	0.00	0.00	0.00
	12H	21.28	21.82	21.76	22.30	22.78	0.00	0.00	0.00	0.00	0.00
8H	4H	20.33	20.95	20.80	21.40	21.87	0.00	0.00	0.00	0.00	0.00
	6H	20.91	21.42	21.42	21.91	22.40	0.00	0.00	0.00	0.00	0.00
	8H	21.06	21.51	21.59	22.03	22.52	0.00	0.00	0.00	0.00	0.00
	12H	21.12	21.52	21.64	22.01	22.59	0.00	0.00	0.00	0.00	0.00
12H	4H	20.28	20.83	20.77	21.31	21.79	0.00	0.00	0.00	0.00	0.00
	6H	20.85	21.30	21.37	21.82	22.31	0.00	0.00	0.00	0.00	0.00
	8H	21.02	21.41	21.54	21.91	22.48	0.00	0.00	0.00	0.00	0.00