

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: P1055690

Luminaire Tested: S123R3DR-H1000D840-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055690  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-H1000D840-X4F0-XX-UDD-F-S  
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

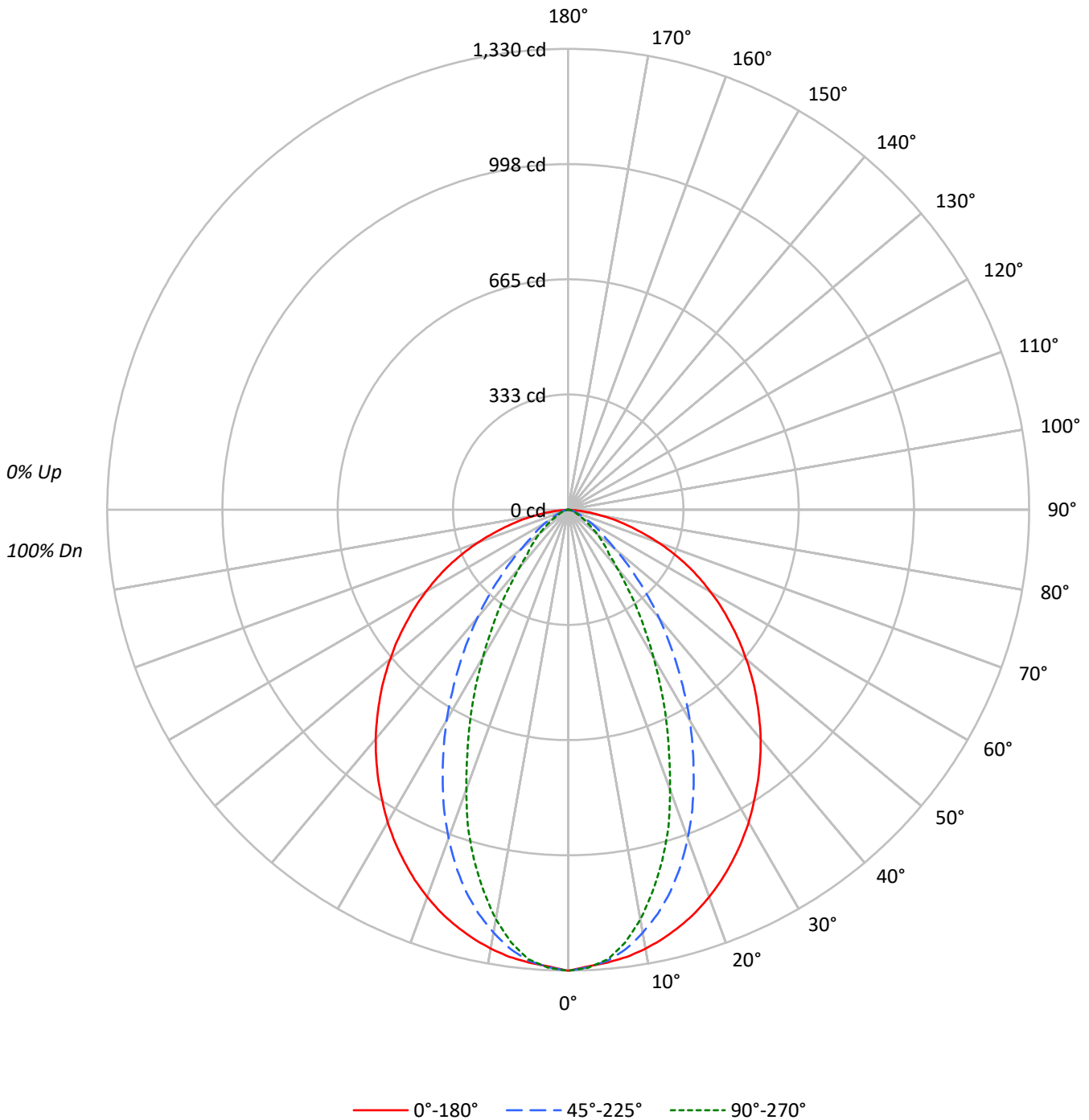
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1850.4 lumens  
Efficiency: N/A  
Efficacy: 59.9 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94  
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

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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	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39
10	62	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36

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

	0°	45°	90°
0°	16041	16041	16041
5°	15874	15813	15767
10°	15749	15177	14698
15°	15537	14230	13081
20°	15259	12944	11020
25°	14898	11391	8892
30°	14502	9762	6848
35°	14051	8055	5067
40°	13597	6412	3453
45°	13095	4795	2602
50°	12561	3335	2035
55°	12009	2438	1484
60°	11434	1825	1063
65°	10758	1224	827
70°	9736	888	666
75°	8399	647	531
80°	6742	528	437
85°	3486	526	346

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 13095 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	123.0	6.6
10°-20°	320.2	17.3
20°-30°	402.2	21.7
30°-40°	374.6	20.2
40°-50°	286.8	15.5
50°-60°	190.6	10.3
60°-70°	102.8	5.6
70°-80°	42.1	2.3
80°-90°	8.1	0.4
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°	845.4	45.7
0°-40°	1220.0	65.9
0°-60°	1697.4	91.7
0°-90°	1850.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1850.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1330	1330	1330	1330	1330	
5°	1312	1326	1307	1302	1303	124
15°	1245	1225	1140	1073	1048	351
25°	1120	1044	856	714	668	516
35°	955	814	547	387	344	597
45°	768	568	281	165	153	593
55°	571	330	116	81	71	512
65°	377	127	43	32	29	373
75°	180	30	14	13	11	193
85°	25	4	4	4	2	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1330.5	1330.5	1330.5	1330.5	1330.5
2.5°	1319.2	1335.6	1321.7	1323.0	1323.0
5°	1311.6	1325.5	1306.6	1301.5	1302.8
7.5°	1301.5	1310.3	1278.8	1262.4	1259.9
10°	1286.4	1288.9	1239.7	1210.7	1200.6
12.5°	1267.5	1258.6	1194.3	1146.4	1127.5
15°	1244.8	1224.6	1140.1	1073.3	1048.0
17.5°	1219.5	1185.5	1078.3	991.3	961.0
20°	1189.3	1141.4	1008.9	900.5	858.9
22.5°	1156.5	1094.7	935.8	807.1	760.5
25°	1119.9	1044.2	856.3	713.8	668.4
27.5°	1082.1	990.0	778.1	625.5	578.9
30°	1041.7	934.5	701.2	539.8	491.9
32.5°	997.6	874.0	621.8	460.3	412.4
35°	954.7	813.5	547.3	387.2	344.3
37.5°	909.3	752.9	475.5	322.9	274.9
40°	863.9	691.1	407.4	259.8	219.4
42.5°	816.0	629.3	343.0	206.8	175.3
45°	768.0	567.5	281.2	165.2	152.6
47.5°	720.1	505.7	227.0	142.5	129.9
50°	669.7	446.5	177.8	121.1	108.5
52.5°	621.8	387.2	138.7	99.6	88.3
55°	571.3	330.4	116.0	80.7	70.6
57.5°	524.6	272.4	95.8	63.1	55.5
60°	474.2	220.7	75.7	49.2	44.1
62.5°	426.3	172.8	58.0	39.1	35.3
65°	377.1	127.4	42.9	31.5	29.0
67.5°	327.9	92.1	32.8	25.2	24.0
70°	276.2	69.4	25.2	20.2	18.9
72.5°	227.0	49.2	18.9	16.4	15.1
75°	180.3	30.3	13.9	12.6	11.4
77.5°	138.7	17.7	10.1	10.1	8.8
80°	97.1	10.1	7.6	7.6	6.3
82.5°	59.3	6.3	5.0	5.0	5.0
85°	25.2	3.8	3.8	3.8	2.5
87.5°	3.8	1.3	1.3	1.3	1.3
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	19.45	20.81	19.82	21.12	21.44	8.03	9.39	8.40	9.70	10.02
	3H	21.21	22.41	21.59	22.74	23.11	8.69	9.90	9.07	10.23	10.59
	4H	21.91	23.03	22.31	23.38	23.76	8.89	10.02	9.29	10.37	10.75
	6H	22.42	23.45	22.84	23.82	24.22	9.01	10.05	9.43	10.42	10.81
	8H	22.56	23.54	22.99	23.93	24.34	9.05	10.03	9.48	10.42	10.82
	12H	22.61	23.55	23.04	23.93	24.36	9.06	9.99	9.49	10.37	10.80
4H	2H	19.26	20.39	19.66	20.74	21.12	8.59	9.71	8.99	10.06	10.45
	3H	21.06	21.98	21.47	22.38	22.78	9.39	10.31	9.80	10.71	11.11
	4H	21.75	22.57	22.18	22.99	23.43	9.64	10.47	10.08	10.89	11.33
	6H	22.32	23.03	22.78	23.48	23.94	9.84	10.55	10.30	11.00	11.46
	8H	22.50	23.16	22.96	23.61	24.08	9.89	10.56	10.36	11.00	11.47
	12H	22.58	23.17	23.07	23.65	24.12	9.93	10.51	10.41	10.99	11.47
8H	4H	21.63	22.29	22.10	22.74	23.21	9.96	10.62	10.43	11.07	11.54
	6H	22.18	22.72	22.68	23.22	23.70	10.21	10.75	10.71	11.24	11.72
	8H	22.36	22.84	22.88	23.36	23.85	10.29	10.78	10.81	11.29	11.78
	12H	22.46	22.89	22.98	23.38	23.95	10.37	10.80	10.89	11.29	11.86
12H	4H	21.58	22.17	22.07	22.65	23.13	10.00	10.59	10.49	11.07	11.55
	6H	22.12	22.61	22.64	23.12	23.61	10.25	10.74	10.77	11.25	11.74
	8H	22.32	22.75	22.83	23.24	23.81	10.38	10.80	10.89	11.30	11.87