

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055698

Luminaire Tested: S123R3DR-H1000D930-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055698  
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-H1000D930-X4F0-XX-UDD-FLL-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

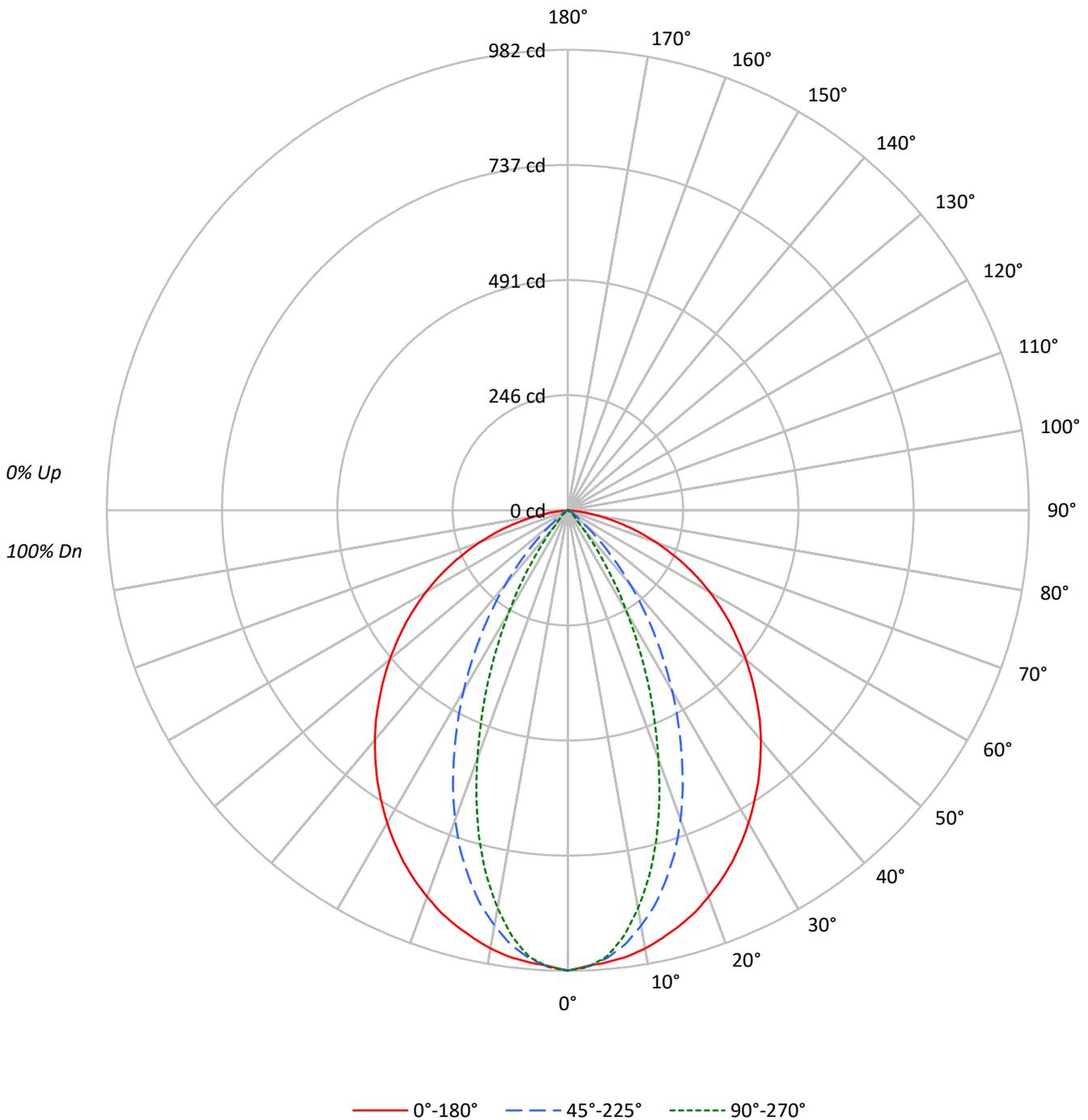
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1148.7 lumens  
Efficiency: N/A  
Efficacy: 37.2 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

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

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

	0°	45°	90°
0°	11833	11833	11833
5°	11707	11595	11559
10°	11617	11007	10546
15°	11451	10141	9087
20°	11248	9000	7237
25°	11012	7625	5337
30°	10715	6180	3501
35°	10400	4705	1918
40°	10063	3253	656
45°	9669	1893	382
50°	9281	745	229
55°	8881	471	107
60°	8420	294	48
65°	7842	145	29
70°	7036	71	35
75°	5977	47	47
80°	4450	69	0
85°	1688	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9669 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.0	7.8
10°-20°	228.4	19.9
20°-30°	272.4	23.7
30°-40°	231.1	20.1
40°-50°	157.1	13.7
50°-60°	97.3	8.5
60°-70°	49.3	4.3
70°-80°	20.1	1.7
80°-90°	3.1	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°	590.8	51.4
0°-40°	821.9	71.5
0°-60°	1076.2	93.7
0°-90°	1148.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1148.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	982	982	982	982	982	
5°	967	976	958	951	955	92
15°	917	894	812	748	728	259
25°	828	750	573	443	401	381
35°	707	567	320	172	130	442
45°	567	372	111	28	22	438
55°	422	187	22	8	5	377
65°	275	46	5	1	1	272
75°	128	8	1	1	1	136
85°	12	0	0	1	0	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	981.5	981.5	981.5	981.5	981.5
2.5°	972.4	985.6	974.4	973.4	974.4
5°	967.3	976.4	958.1	951.0	955.1
7.5°	960.1	964.2	933.7	915.3	915.3
10°	948.9	945.9	899.1	868.5	861.4
12.5°	933.7	921.5	860.4	812.5	799.3
15°	917.4	894.0	812.5	748.4	728.0
17.5°	899.1	863.4	760.6	677.1	647.6
20°	876.7	828.8	701.5	599.7	564.1
22.5°	853.2	791.1	639.4	520.3	480.6
25°	827.8	750.4	573.2	442.9	401.2
27.5°	799.3	707.6	508.1	368.6	322.8
30°	769.7	662.8	443.9	297.3	251.5
32.5°	738.2	616.0	379.8	232.1	189.4
35°	706.6	567.1	319.7	172.1	130.3
37.5°	673.0	518.3	261.7	119.1	82.5
40°	639.4	470.4	206.7	75.3	41.7
42.5°	604.8	420.5	156.8	37.7	28.5
45°	567.1	371.6	111.0	27.5	22.4
47.5°	531.5	324.8	73.3	22.4	17.3
50°	494.8	278.0	39.7	16.3	12.2
52.5°	458.2	233.2	28.5	12.2	8.1
55°	422.5	187.3	22.4	8.1	5.1
57.5°	385.9	147.6	17.3	5.1	3.1
60°	349.2	108.9	12.2	3.1	2.0
62.5°	312.6	75.3	8.1	2.0	1.0
65°	274.9	45.8	5.1	1.0	1.0
67.5°	236.2	31.6	3.1	1.0	1.0
70°	199.6	22.4	2.0	1.0	1.0
72.5°	162.9	14.3	1.0	1.0	0.0
75°	128.3	8.1	1.0	1.0	1.0
77.5°	94.7	3.1	1.0	1.0	0.0
80°	64.1	1.0	1.0	1.0	0.0
82.5°	35.6	0.0	1.0	1.0	0.0
85°	12.2	0.0	0.0	1.0	0.0
87.5°	0.0	0.0	0.0	1.0	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	17.63	18.91	18.00	19.23	19.54	0.00	0.00	0.00	0.00	0.00
	3H	19.58	20.71	19.96	21.04	21.41	0.00	0.00	0.00	0.00	0.00
	4H	20.40	21.46	20.81	21.81	22.20	0.00	0.00	0.00	0.00	0.00
	6H	20.96	21.93	21.37	22.30	22.69	0.00	0.00	0.00	0.00	0.00
	8H	21.08	22.00	21.52	22.39	22.80	0.00	0.00	0.00	0.00	0.00
	12H	21.11	21.98	21.54	22.37	22.80	0.00	0.00	0.00	0.00	0.00
4H	2H	17.40	18.45	17.80	18.80	19.19	0.00	0.00	0.00	0.00	0.00
	3H	19.35	20.21	19.76	20.62	21.02	0.00	0.00	0.00	0.00	0.00
	4H	20.16	20.93	20.60	21.35	21.80	0.00	0.00	0.00	0.00	0.00
	6H	20.76	21.43	21.23	21.87	22.34	0.00	0.00	0.00	0.00	0.00
	8H	20.92	21.53	21.39	21.98	22.45	0.00	0.00	0.00	0.00	0.00
	12H	20.96	21.51	21.45	21.99	22.46	0.00	0.00	0.00	0.00	0.00
8H	4H	20.02	20.64	20.49	21.09	21.56	0.00	0.00	0.00	0.00	0.00
	6H	20.60	21.10	21.11	21.60	22.08	0.00	0.00	0.00	0.00	0.00
	8H	20.75	21.20	21.27	21.72	22.21	0.00	0.00	0.00	0.00	0.00
	12H	20.81	21.20	21.32	21.70	22.27	0.00	0.00	0.00	0.00	0.00
12H	4H	19.97	20.52	20.46	21.00	21.47	0.00	0.00	0.00	0.00	0.00
	6H	20.54	20.99	21.06	21.51	22.00	0.00	0.00	0.00	0.00	0.00
	8H	20.71	21.10	21.22	21.60	22.17	0.00	0.00	0.00	0.00	0.00