

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: P1055779

Luminaire Tested: S123R3DR-H560D930-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055779  
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-H560D930-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: -

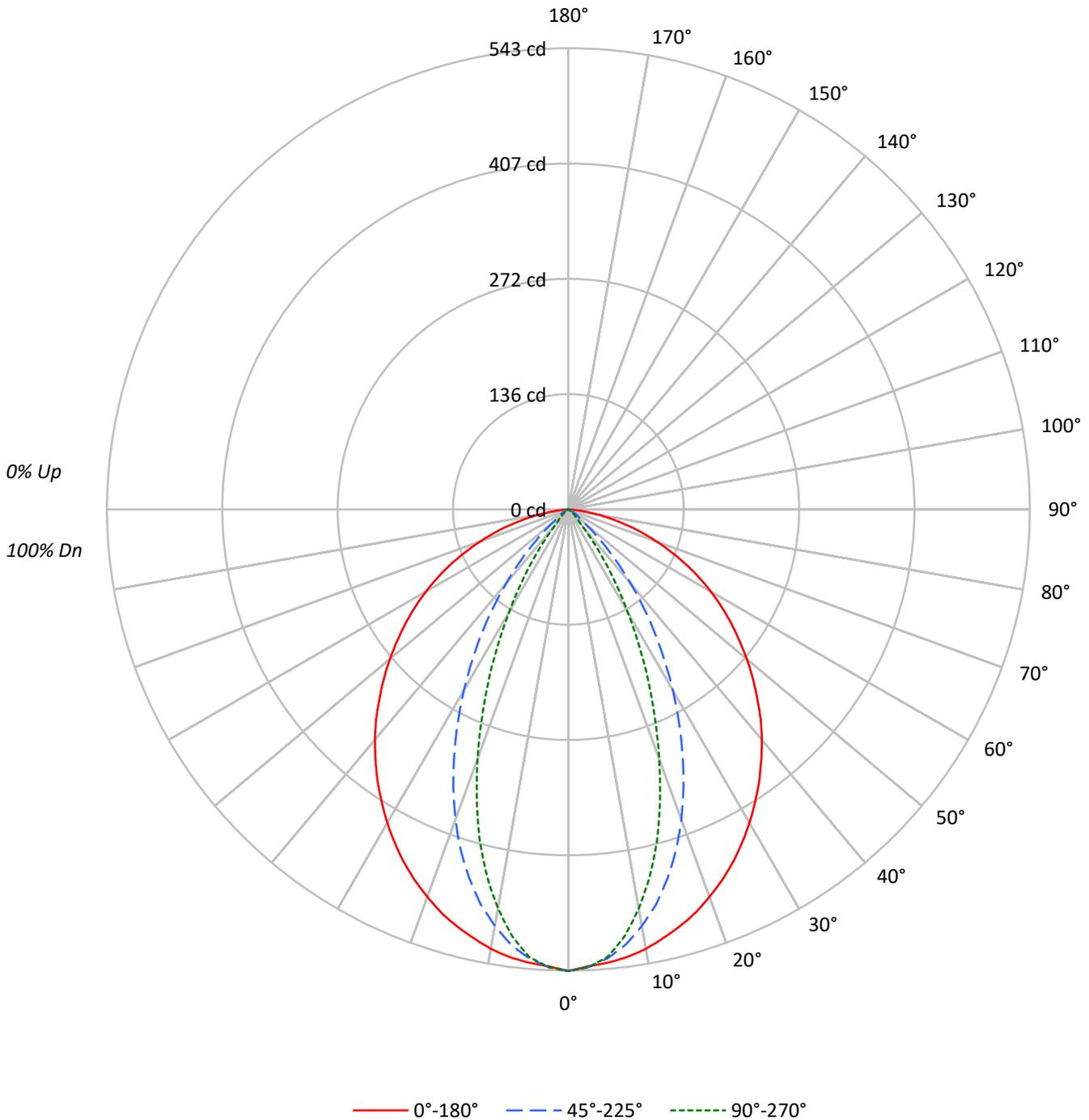
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 636.1 lumens  
Efficiency: N/A  
Efficacy: 36.8 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): 17.3  
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	57	79	69	62	57	67	61	57	66	60	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°	6551	6551	6551
5°	6482	6420	6400
10°	6432	6094	5838
15°	6339	5616	5031
20°	6228	4983	4007
25°	6097	4222	2955
30°	5933	3422	1938
35°	5758	2605	1063
40°	5571	1800	364
45°	5354	1047	211
50°	5139	413	128
55°	4919	261	59
60°	4663	164	27
65°	4342	80	17
70°	3895	39	21
75°	3307	28	28
80°	2465	42	0
85°	941	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5354 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	49.8	7.8
10°-20°	126.4	19.9
20°-30°	150.8	23.7
30°-40°	127.9	20.1
40°-50°	87.0	13.7
50°-60°	53.9	8.5
60°-70°	27.3	4.3
70°-80°	11.2	1.8
80°-90°	1.7	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°	327.1	51.4
0°-40°	455.0	71.5
0°-60°	595.9	93.7
0°-90°	636.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	636.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	543	543	543	543	543	
5°	536	541	530	526	529	51
15°	508	495	450	414	403	143
25°	458	416	317	245	222	211
35°	391	314	177	95	72	245
45°	314	206	61	15	12	243
55°	234	104	12	4	3	209
65°	152	25	3	1	1	150
75°	71	4	1	1	1	76
85°	7	0	0	1	0	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	543.4	543.4	543.4	543.4	543.4
2.5°	538.4	545.7	539.5	538.9	539.5
5°	535.6	540.6	530.5	526.5	528.8
7.5°	531.6	533.9	516.9	506.8	506.8
10°	525.4	523.7	497.8	480.9	476.9
12.5°	516.9	510.2	476.4	449.9	442.5
15°	507.9	495.0	449.9	414.3	403.1
17.5°	497.8	478.0	421.1	374.9	358.5
20°	485.4	458.9	388.4	332.0	312.3
22.5°	472.4	438.0	354.0	288.1	266.1
25°	458.3	415.5	317.4	245.2	222.1
27.5°	442.5	391.8	281.3	204.1	178.7
30°	426.2	367.0	245.8	164.6	139.2
32.5°	408.7	341.1	210.3	128.5	104.9
35°	391.2	314.0	177.0	95.3	72.2
37.5°	372.6	286.9	144.9	66.0	45.7
40°	354.0	260.4	114.4	41.7	23.1
42.5°	334.9	232.8	86.8	20.9	15.8
45°	314.0	205.8	61.4	15.2	12.4
47.5°	294.3	179.8	40.6	12.4	9.6
50°	274.0	153.9	22.0	9.0	6.8
52.5°	253.7	129.1	15.8	6.8	4.5
55°	234.0	103.7	12.4	4.5	2.8
57.5°	213.7	81.7	9.6	2.8	1.7
60°	193.4	60.3	6.8	1.7	1.1
62.5°	173.1	41.7	4.5	1.1	0.6
65°	152.2	25.4	2.8	0.6	0.6
67.5°	130.8	17.5	1.7	0.6	0.6
70°	110.5	12.4	1.1	0.6	0.6
72.5°	90.2	7.9	0.6	0.6	0.0
75°	71.0	4.5	0.6	0.6	0.6
77.5°	52.4	1.7	0.6	0.6	0.0
80°	35.5	0.6	0.6	0.6	0.0
82.5°	19.7	0.0	0.6	0.6	0.0
85°	6.8	0.0	0.0	0.6	0.0
87.5°	0.0	0.0	0.0	0.6	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	15.58	16.86	15.94	17.17	17.49	0.00	0.00	0.00	0.00	0.00
	3H	17.52	18.66	17.90	18.99	19.35	0.00	0.00	0.00	0.00	0.00
	4H	18.35	19.41	18.75	19.76	20.14	0.00	0.00	0.00	0.00	0.00
	6H	18.90	19.87	19.32	20.24	20.64	0.00	0.00	0.00	0.00	0.00
	8H	19.03	19.95	19.46	20.34	20.74	0.00	0.00	0.00	0.00	0.00
	12H	19.05	19.93	19.49	20.31	20.74	0.00	0.00	0.00	0.00	0.00
4H	2H	15.34	16.40	15.74	16.75	17.13	0.00	0.00	0.00	0.00	0.00
	3H	17.29	18.16	17.71	18.56	18.97	0.00	0.00	0.00	0.00	0.00
	4H	18.11	18.88	18.54	19.30	19.74	0.00	0.00	0.00	0.00	0.00
	6H	18.71	19.37	19.17	19.82	20.29	0.00	0.00	0.00	0.00	0.00
	8H	18.86	19.48	19.33	19.93	20.40	0.00	0.00	0.00	0.00	0.00
	12H	18.91	19.45	19.39	19.94	20.41	0.00	0.00	0.00	0.00	0.00
8H	4H	17.97	18.58	18.44	19.03	19.50	0.00	0.00	0.00	0.00	0.00
	6H	18.55	19.05	19.05	19.55	20.03	0.00	0.00	0.00	0.00	0.00
	8H	18.70	19.15	19.22	19.66	20.16	0.00	0.00	0.00	0.00	0.00
	12H	18.75	19.15	19.27	19.64	20.22	0.00	0.00	0.00	0.00	0.00
12H	4H	17.92	18.46	18.40	18.95	19.42	0.00	0.00	0.00	0.00	0.00
	6H	18.48	18.93	19.01	19.45	19.94	0.00	0.00	0.00	0.00	0.00
	8H	18.65	19.05	19.17	19.54	20.12	0.00	0.00	0.00	0.00	0.00