

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: P1055650

Luminaire Tested: S123R3DR-S560D940-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055650  
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-S560D940-X4F0-XX-UDD-F-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

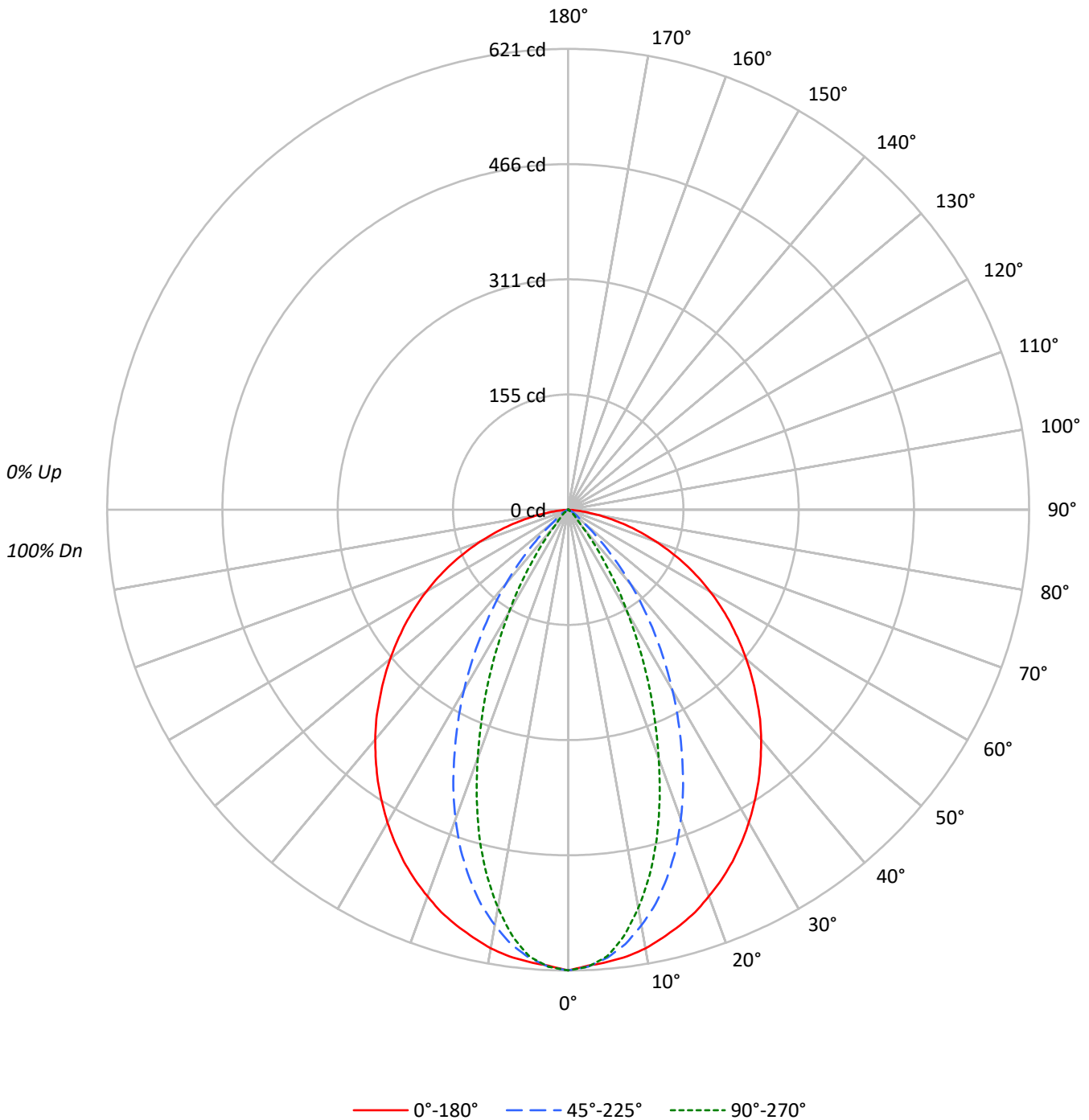
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 726.5 lumens  
Efficiency: N/A  
Efficacy: 38.0 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): 19.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61
6	81	70	63	58	79	69	62	57	67	61	57	66	61	56	64	60	56
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41

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

	0°	45°	90°
0°	7485	7485	7485
5°	7403	7333	7310
10°	7348	6961	6670
15°	7242	6414	5747
20°	7113	5693	4577
25°	6964	4822	3375
30°	6777	3909	2215
35°	6578	2976	1213
40°	6365	2057	415
45°	6116	1197	242
50°	5871	471	144
55°	5616	298	67
60°	5327	186	31
65°	4961	91	17
70°	4449	46	21
75°	3778	28	28
80°	2819	42	0
85°	1065	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6116 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	56.9	7.8
10°-20°	144.4	19.9
20°-30°	172.3	23.7
30°-40°	146.1	20.1
40°-50°	99.3	13.7
50°-60°	61.6	8.5
60°-70°	31.2	4.3
70°-80°	12.7	1.7
80°-90°	1.9	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°	373.6	51.4
0°-40°	519.8	71.5
0°-60°	680.7	93.7
0°-90°	726.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	726.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	621	621	621	621	621	
5°	612	618	606	601	604	58
15°	580	565	514	473	460	164
25°	524	475	362	280	254	241
35°	447	359	202	109	82	279
45°	359	235	70	17	14	277
55°	267	118	14	5	3	239
65°	174	29	3	1	1	172
75°	81	5	1	1	1	86
85°	8	0	0	1	0	14
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	620.8	620.8	620.8	620.8	620.8
2.5°	615.0	623.3	616.3	615.6	616.3
5°	611.7	617.5	605.9	601.4	604.0
7.5°	607.2	609.8	590.5	578.9	578.9
10°	600.2	598.2	568.6	549.3	544.8
12.5°	590.5	582.8	544.1	513.9	505.5
15°	580.2	565.4	513.9	473.3	460.4
17.5°	568.6	546.1	481.0	428.2	409.5
20°	554.4	524.2	443.7	379.3	356.7
22.5°	539.6	500.3	404.4	329.1	303.9
25°	523.5	474.6	362.5	280.1	253.7
27.5°	505.5	447.5	321.3	233.1	204.1
30°	486.8	419.2	280.8	188.0	159.1
32.5°	466.9	389.6	240.2	146.8	119.8
35°	446.9	358.7	202.2	108.8	82.4
37.5°	425.6	327.8	165.5	75.3	52.2
40°	404.4	297.5	130.7	47.7	26.4
42.5°	382.5	265.9	99.2	23.8	18.0
45°	358.7	235.0	70.2	17.4	14.2
47.5°	336.1	205.4	46.4	14.2	10.9
50°	313.0	175.8	25.1	10.3	7.7
52.5°	289.8	147.5	18.0	7.7	5.2
55°	267.2	118.5	14.2	5.2	3.2
57.5°	244.1	93.4	10.9	3.2	1.9
60°	220.9	68.9	7.7	1.9	1.3
62.5°	197.7	47.7	5.2	1.3	0.6
65°	173.9	29.0	3.2	0.6	0.6
67.5°	149.4	20.0	1.9	0.6	0.6
70°	126.2	14.2	1.3	0.6	0.6
72.5°	103.0	9.0	0.6	0.6	0.0
75°	81.1	5.2	0.6	0.6	0.6
77.5°	59.9	1.9	0.6	0.6	0.0
80°	40.6	0.6	0.6	0.6	0.0
82.5°	22.5	0.0	0.6	0.6	0.0
85°	7.7	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	16.04	17.32	16.41	17.64	17.95	0.00	0.00	0.00	0.00	0.00
	3H	17.99	19.12	18.37	19.45	19.82	0.00	0.00	0.00	0.00	0.00
	4H	18.81	19.87	19.22	20.22	20.61	0.00	0.00	0.00	0.00	0.00
	6H	19.37	20.34	19.78	20.71	21.10	0.00	0.00	0.00	0.00	0.00
	8H	19.49	20.41	19.92	20.80	21.21	0.00	0.00	0.00	0.00	0.00
	12H	19.52	20.39	19.95	20.78	21.21	0.00	0.00	0.00	0.00	0.00
4H	2H	15.81	16.86	16.21	17.21	17.60	0.00	0.00	0.00	0.00	0.00
	3H	17.76	18.62	18.17	19.03	19.43	0.00	0.00	0.00	0.00	0.00
	4H	18.57	19.34	19.01	19.76	20.21	0.00	0.00	0.00	0.00	0.00
	6H	19.17	19.84	19.64	20.28	20.75	0.00	0.00	0.00	0.00	0.00
	8H	19.33	19.94	19.80	20.39	20.86	0.00	0.00	0.00	0.00	0.00
	12H	19.37	19.92	19.86	20.40	20.87	0.00	0.00	0.00	0.00	0.00
8H	4H	18.43	19.05	18.90	19.50	19.97	0.00	0.00	0.00	0.00	0.00
	6H	19.01	19.51	19.52	20.01	20.49	0.00	0.00	0.00	0.00	0.00
	8H	19.16	19.61	19.68	20.13	20.62	0.00	0.00	0.00	0.00	0.00
	12H	19.22	19.61	19.73	20.11	20.68	0.00	0.00	0.00	0.00	0.00
12H	4H	18.38	18.93	18.87	19.41	19.88	0.00	0.00	0.00	0.00	0.00
	6H	18.95	19.40	19.47	19.91	20.41	0.00	0.00	0.00	0.00	0.00
	8H	19.12	19.51	19.63	20.01	20.58	0.00	0.00	0.00	0.00	0.00