

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: P1055647

Luminaire Tested: S123R3DR-S560D935-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055647  
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-S560D935-X4F0-XX-UDD-F-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

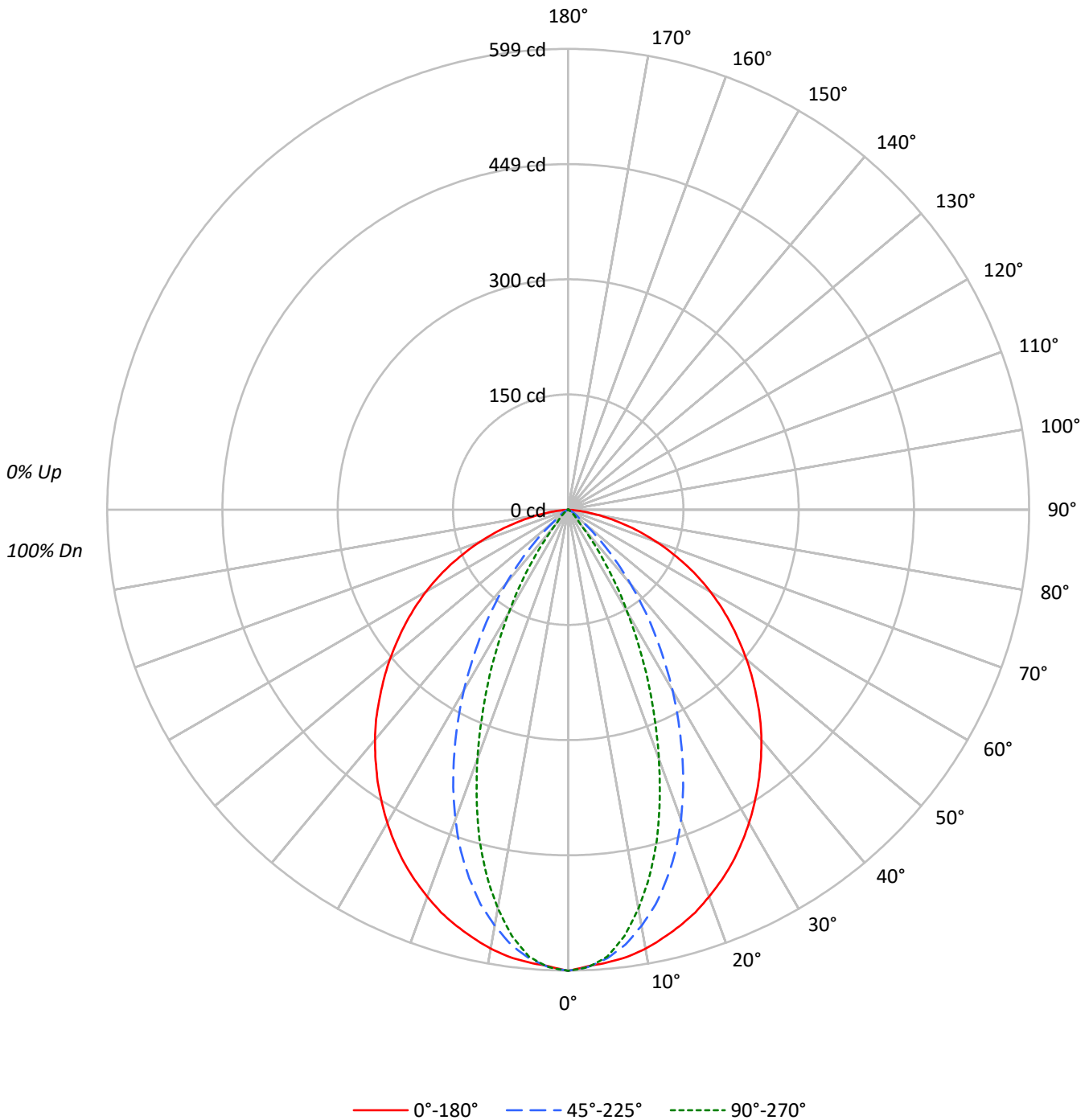
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 701.5 lumens  
Efficiency: N/A  
Efficacy: 36.7 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): 19.1  
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
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°	7227	7227	7227
5°	7149	7081	7058
10°	7094	6721	6439
15°	6992	6193	5549
20°	6868	5496	4420
25°	6725	4657	3259
30°	6545	3774	2138
35°	6351	2873	1172
40°	6146	1986	401
45°	5905	1156	234
50°	5668	454	141
55°	5423	288	65
60°	5143	181	29
65°	4790	88	17
70°	4297	42	21
75°	3647	28	28
80°	2722	42	0
85°	1037	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5905 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	55.0	7.8
10°-20°	139.5	19.9
20°-30°	166.4	23.7
30°-40°	141.1	20.1
40°-50°	95.9	13.7
50°-60°	59.4	8.5
60°-70°	30.1	4.3
70°-80°	12.3	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°	360.8	51.4
0°-40°	501.9	71.5
0°-60°	657.2	93.7
0°-90°	701.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	701.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	599	599	599	599	599	
5°	591	596	585	581	583	56
15°	560	546	496	457	445	158
25°	506	458	350	270	245	233
35°	432	346	195	105	80	270
45°	346	227	68	17	14	268
55°	258	114	14	5	3	231
65°	168	28	3	1	1	166
75°	78	5	1	1	1	83
85°	8	0	0	1	0	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	599.4	599.4	599.4	599.4	599.4
2.5°	593.8	601.9	595.0	594.4	595.0
5°	590.7	596.3	585.1	580.7	583.2
7.5°	586.3	588.8	570.2	559.0	559.0
10°	579.5	577.6	549.0	530.4	526.0
12.5°	570.2	562.7	525.4	496.2	488.1
15°	560.2	545.9	496.2	457.0	444.6
17.5°	549.0	527.3	464.5	413.5	395.4
20°	535.3	506.1	428.4	366.2	344.5
22.5°	521.0	483.1	390.5	317.7	293.5
25°	505.5	458.2	350.1	270.5	245.0
27.5°	488.1	432.1	310.3	225.1	197.1
30°	470.1	404.8	271.1	181.6	153.6
32.5°	450.8	376.2	231.9	141.8	115.6
35°	431.5	346.3	195.2	105.1	79.6
37.5°	411.0	316.5	159.8	72.7	50.4
40°	390.5	287.3	126.2	46.0	25.5
42.5°	369.3	256.8	95.8	23.0	17.4
45°	346.3	226.9	67.8	16.8	13.7
47.5°	324.6	198.3	44.8	13.7	10.6
50°	302.2	169.7	24.2	9.9	7.5
52.5°	279.8	142.4	17.4	7.5	5.0
55°	258.0	114.4	13.7	5.0	3.1
57.5°	235.6	90.2	10.6	3.1	1.9
60°	213.3	66.5	7.5	1.9	1.2
62.5°	190.9	46.0	5.0	1.2	0.6
65°	167.9	28.0	3.1	0.6	0.6
67.5°	144.2	19.3	1.9	0.6	0.6
70°	121.9	13.7	1.2	0.6	0.6
72.5°	99.5	8.7	0.6	0.6	0.0
75°	78.3	5.0	0.6	0.6	0.6
77.5°	57.8	1.9	0.6	0.6	0.0
80°	39.2	0.6	0.6	0.6	0.0
82.5°	21.8	0.0	0.6	0.6	0.0
85°	7.5	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	15.92	17.20	16.29	17.51	17.83	0.00	0.00	0.00	0.00	0.00
	3H	17.87	19.00	18.25	19.33	19.70	0.00	0.00	0.00	0.00	0.00
	4H	18.69	19.75	19.10	20.10	20.48	0.00	0.00	0.00	0.00	0.00
	6H	19.25	20.21	19.66	20.59	20.98	0.00	0.00	0.00	0.00	0.00
	8H	19.37	20.29	19.80	20.68	21.09	0.00	0.00	0.00	0.00	0.00
	12H	19.40	20.27	19.83	20.66	21.09	0.00	0.00	0.00	0.00	0.00
4H	2H	15.68	16.74	16.09	17.09	17.47	0.00	0.00	0.00	0.00	0.00
	3H	17.64	18.50	18.05	18.90	19.31	0.00	0.00	0.00	0.00	0.00
	4H	18.45	19.22	18.89	19.64	20.08	0.00	0.00	0.00	0.00	0.00
	6H	19.05	19.71	19.51	20.16	20.63	0.00	0.00	0.00	0.00	0.00
	8H	19.20	19.82	19.67	20.27	20.74	0.00	0.00	0.00	0.00	0.00
	12H	19.25	19.80	19.74	20.28	20.75	0.00	0.00	0.00	0.00	0.00
8H	4H	18.31	18.93	18.78	19.37	19.84	0.00	0.00	0.00	0.00	0.00
	6H	18.89	19.39	19.39	19.89	20.37	0.00	0.00	0.00	0.00	0.00
	8H	19.04	19.49	19.56	20.01	20.50	0.00	0.00	0.00	0.00	0.00
	12H	19.10	19.49	19.61	19.99	20.56	0.00	0.00	0.00	0.00	0.00
12H	4H	18.26	18.80	18.75	19.29	19.76	0.00	0.00	0.00	0.00	0.00
	6H	18.83	19.28	19.35	19.79	20.29	0.00	0.00	0.00	0.00	0.00
	8H	18.99	19.39	19.51	19.89	20.46	0.00	0.00	0.00	0.00	0.00