

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: P1055780

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

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055780  
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-H560D930-X4F0-XX-UDD-FLL-S  
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

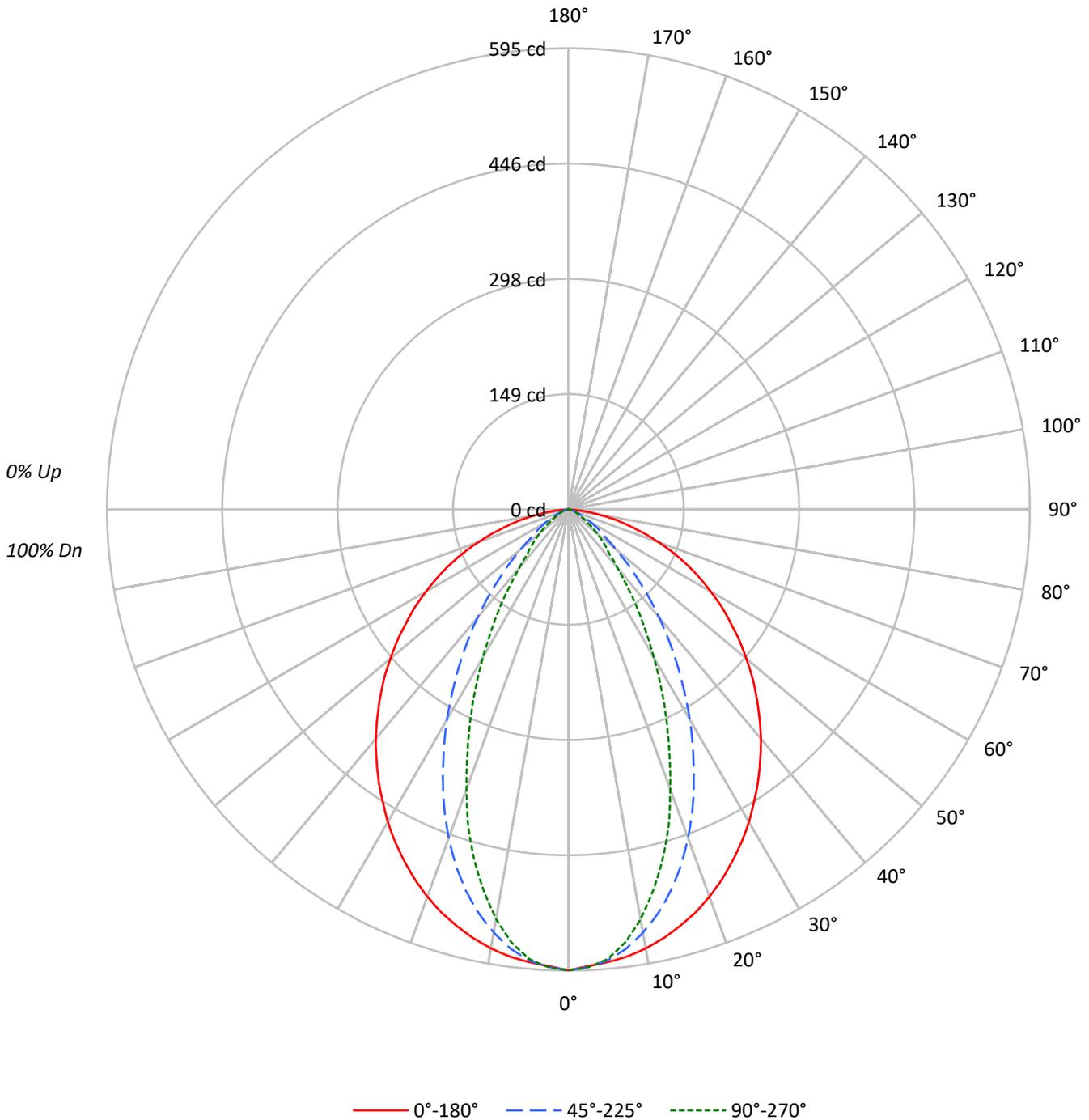
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 827.1 lumens  
Efficiency: N/A  
Efficacy: 47.8 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): 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	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					100			
1	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89					89			
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79					79			
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70					70			
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62					62			
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56					56			
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51					51			
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46					46			
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42					42			
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39					39			
10	61	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36					36			

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

	0°	45°	90°
0°	7170	7170	7170
5°	7096	7068	7047
10°	7039	6785	6570
15°	6945	6361	5848
20°	6821	5786	4925
25°	6659	5092	3975
30°	6482	4363	3061
35°	6280	3602	2265
40°	6078	2866	1544
45°	5853	2143	1163
50°	5614	1491	910
55°	5368	1091	664
60°	5112	815	475
65°	4810	548	371
70°	4353	398	300
75°	3755	289	238
80°	3013	236	194
85°	1563	235	152

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5853 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	55.0	6.6
10°-20°	143.1	17.3
20°-30°	179.8	21.7
30°-40°	167.5	20.2
40°-50°	128.2	15.5
50°-60°	85.2	10.3
60°-70°	45.9	5.6
70°-80°	18.8	2.3
80°-90°	3.6	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°	377.9	45.7
0°-40°	545.4	65.9
0°-60°	758.8	91.7
0°-90°	827.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	827.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	595	595	595	595	595	
5°	586	592	584	582	582	56
15°	556	547	510	480	468	157
25°	501	467	383	319	299	231
35°	427	364	245	173	154	267
45°	343	254	126	74	68	265
55°	255	148	52	36	32	229
65°	169	57	19	14	13	167
75°	81	14	6	6	5	86
85°	11	2	2	2	1	17
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	594.7	594.7	594.7	594.7	594.7
2.5°	589.7	597.0	590.8	591.4	591.4
5°	586.3	592.5	584.0	581.8	582.3
7.5°	581.8	585.7	571.6	564.3	563.2
10°	575.0	576.1	554.2	541.2	536.7
12.5°	566.6	562.6	533.9	512.4	504.0
15°	556.4	547.4	509.6	479.7	468.5
17.5°	545.1	529.9	482.0	443.1	429.6
20°	531.6	510.2	451.0	402.5	383.9
22.5°	516.9	489.3	418.3	360.8	339.9
25°	500.6	466.8	382.8	319.1	298.8
27.5°	483.7	442.5	347.8	279.6	258.8
30°	465.6	417.7	313.4	241.3	219.9
32.5°	445.9	390.7	277.9	205.8	184.3
35°	426.7	363.6	244.7	173.1	153.9
37.5°	406.5	336.6	212.5	144.3	122.9
40°	386.2	308.9	182.1	116.1	98.1
42.5°	364.7	281.3	153.3	92.5	78.4
45°	343.3	253.7	125.7	73.8	68.2
47.5°	321.9	226.1	101.5	63.7	58.1
50°	299.3	199.6	79.5	54.1	48.5
52.5°	277.9	173.1	62.0	44.5	39.5
55°	255.4	147.7	51.9	36.1	31.6
57.5°	234.5	121.8	42.8	28.2	24.8
60°	212.0	98.7	33.8	22.0	19.7
62.5°	190.5	77.2	25.9	17.5	15.8
65°	168.6	56.9	19.2	14.1	13.0
67.5°	146.6	41.2	14.7	11.3	10.7
70°	123.5	31.0	11.3	9.0	8.5
72.5°	101.5	22.0	8.5	7.3	6.8
75°	80.6	13.5	6.2	5.6	5.1
77.5°	62.0	7.9	4.5	4.5	3.9
80°	43.4	4.5	3.4	3.4	2.8
82.5°	26.5	2.8	2.3	2.3	2.3
85°	11.3	1.7	1.7	1.7	1.1
87.5°	1.7	0.6	0.6	0.6	0.6
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	16.66	18.01	17.02	18.33	18.64	5.23	6.59	5.60	6.90	7.22
	3H	18.41	19.62	18.79	19.95	20.31	5.90	7.10	6.28	7.43	7.80
	4H	19.11	20.24	19.51	20.59	20.97	6.09	7.22	6.50	7.57	7.95
	6H	19.62	20.66	20.04	21.03	21.42	6.21	7.25	6.63	7.62	8.01
	8H	19.76	20.74	20.19	21.13	21.54	6.25	7.23	6.68	7.62	8.02
	12H	19.82	20.75	20.25	21.13	21.56	6.26	7.20	6.69	7.58	8.01
4H	2H	16.47	17.59	16.87	17.94	18.32	5.79	6.91	6.19	7.27	7.65
	3H	18.26	19.18	18.67	19.58	19.99	6.59	7.51	7.00	7.91	8.32
	4H	18.95	19.78	19.39	20.20	20.64	6.85	7.67	7.28	8.09	8.53
	6H	19.52	20.23	19.99	20.68	21.15	7.04	7.75	7.50	8.20	8.66
	8H	19.70	20.36	20.17	20.81	21.28	7.10	7.76	7.57	8.21	8.68
	12H	19.78	20.37	20.27	20.85	21.33	7.13	7.72	7.62	8.20	8.67
8H	4H	18.83	19.49	19.30	19.94	20.41	7.16	7.82	7.63	8.27	8.74
	6H	19.38	19.93	19.89	20.42	20.90	7.41	7.95	7.91	8.44	8.92
	8H	19.56	20.05	20.08	20.56	21.05	7.50	7.98	8.02	8.50	8.99
	12H	19.67	20.09	20.18	20.59	21.16	7.58	8.01	8.09	8.50	9.07
12H	4H	18.79	19.37	19.27	19.86	20.33	7.20	7.79	7.69	8.27	8.75
	6H	19.33	19.81	19.85	20.33	20.82	7.45	7.94	7.97	8.45	8.95
	8H	19.52	19.95	20.04	20.44	21.01	7.58	8.01	8.10	8.51	9.08