

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: P1055771

Luminaire Tested: S123R3DR-H560D840-X4F0-XX-UDD-FLL-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055771  
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-H560D840-X4F0-XX-UDD-FLL-S  
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

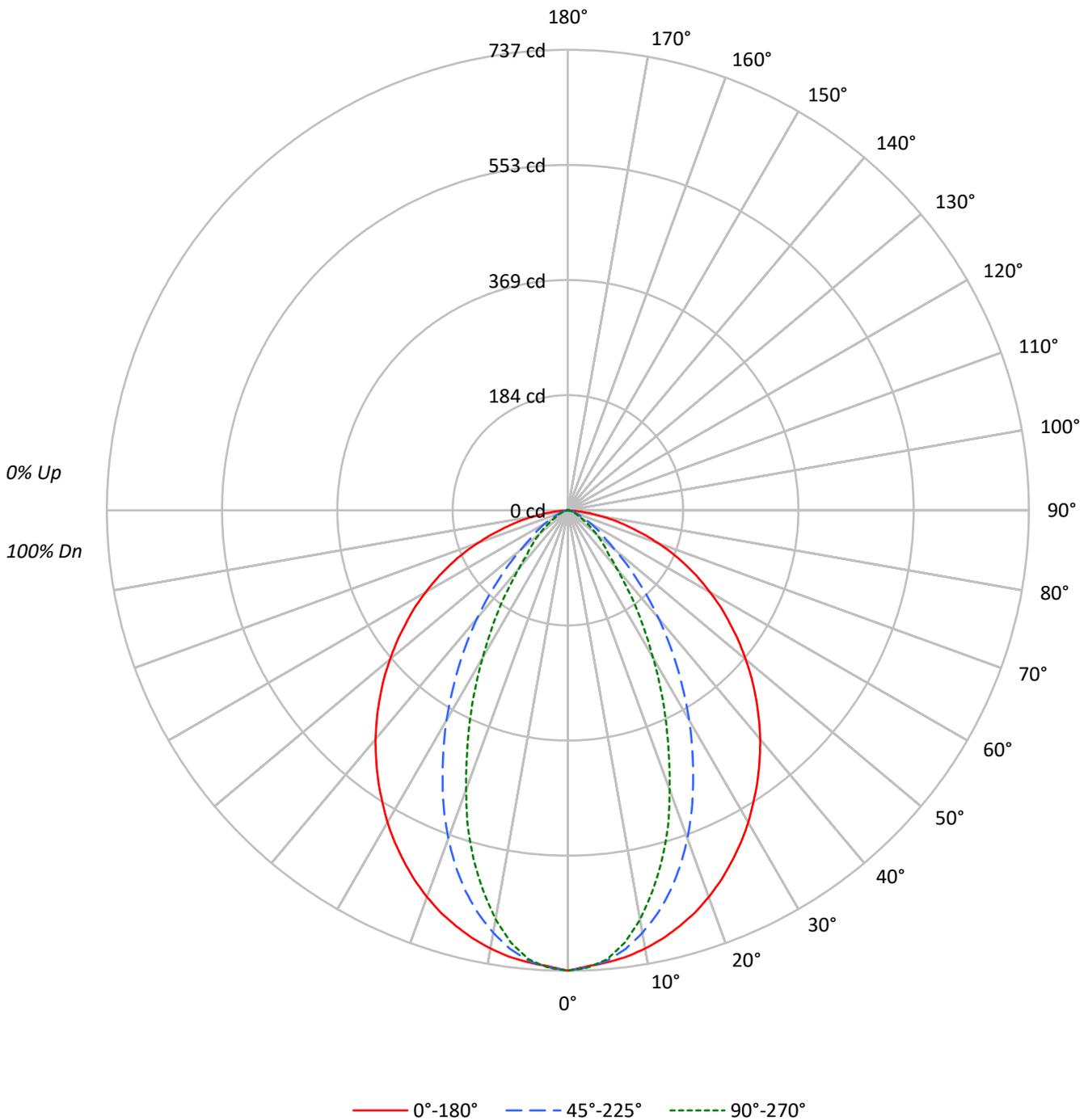
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1024.5 lumens  
Efficiency: N/A  
Efficacy: 59.2 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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39
10	61	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36

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

	0°	45°	90°
0°	8882	8882	8882
5°	8789	8755	8730
10°	8719	8403	8139
15°	8602	7878	7243
20°	8449	7167	6101
25°	8249	6307	4923
30°	8030	5404	3791
35°	7780	4460	2805
40°	7528	3549	1912
45°	7250	2655	1441
50°	6955	1848	1127
55°	6649	1349	822
60°	6330	1010	588
65°	5957	676	459
70°	5390	494	370
75°	4654	359	293
80°	3735	292	243
85°	1937	290	194

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7250 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.1	6.6
10°-20°	177.3	17.3
20°-30°	222.7	21.7
30°-40°	207.4	20.2
40°-50°	158.8	15.5
50°-60°	105.5	10.3
60°-70°	56.9	5.6
70°-80°	23.3	2.3
80°-90°	4.5	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°	468.1	45.7
0°-40°	675.5	65.9
0°-60°	939.8	91.7
0°-90°	1024.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1024.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	737	737	737	737	737	
5°	726	734	723	721	721	69
15°	689	678	631	594	580	194
25°	620	578	474	395	370	286
35°	529	450	303	214	191	330
45°	425	314	156	92	84	328
55°	316	183	64	45	39	283
65°	209	70	24	18	16	206
75°	100	17	8	7	6	107
85°	14	2	2	2	1	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	736.7	736.7	736.7	736.7	736.7
2.5°	730.4	739.5	731.8	732.5	732.5
5°	726.2	733.9	723.4	720.6	721.3
7.5°	720.6	725.5	708.0	699.0	697.6
10°	712.2	713.6	686.4	670.3	664.8
12.5°	701.8	696.9	661.3	634.7	624.3
15°	689.2	678.0	631.2	594.2	580.3
17.5°	675.2	656.4	597.0	548.8	532.1
20°	658.5	631.9	558.6	498.6	475.5
22.5°	640.3	606.1	518.1	446.9	421.1
25°	620.1	578.2	474.1	395.2	370.1
27.5°	599.1	548.1	430.8	346.3	320.5
30°	576.8	517.4	388.2	298.9	272.3
32.5°	552.3	483.9	344.2	254.9	228.3
35°	528.6	450.4	303.0	214.4	190.6
37.5°	503.5	416.9	263.2	178.8	152.2
40°	478.3	382.7	225.5	143.8	121.5
42.5°	451.8	348.4	189.9	114.5	97.1
45°	425.2	314.2	155.7	91.5	84.5
47.5°	398.7	280.0	125.7	78.9	71.9
50°	370.8	247.2	98.5	67.0	60.1
52.5°	344.2	214.4	76.8	55.2	48.9
55°	316.3	182.9	64.2	44.7	39.1
57.5°	290.5	150.8	53.1	34.9	30.7
60°	262.5	122.2	41.9	27.2	24.4
62.5°	236.0	95.7	32.1	21.6	19.6
65°	208.8	70.5	23.7	17.5	16.1
67.5°	181.6	51.0	18.2	14.0	13.3
70°	152.9	38.4	14.0	11.2	10.5
72.5°	125.7	27.2	10.5	9.1	8.4
75°	99.9	16.8	7.7	7.0	6.3
77.5°	76.8	9.8	5.6	5.6	4.9
80°	53.8	5.6	4.2	4.2	3.5
82.5°	32.8	3.5	2.8	2.8	2.8
85°	14.0	2.1	2.1	2.1	1.4
87.5°	2.1	0.7	0.7	0.7	0.7
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	17.40	18.76	17.76	19.07	19.38	5.97	7.33	6.34	7.64	7.96
	3H	19.15	20.36	19.53	20.69	21.05	6.64	7.84	7.02	8.17	8.54
	4H	19.85	20.98	20.26	21.33	21.71	6.84	7.96	7.24	8.31	8.69
	6H	20.37	21.40	20.78	21.77	22.16	6.96	7.99	7.37	8.36	8.75
	8H	20.51	21.49	20.94	21.88	22.28	6.99	7.97	7.42	8.36	8.77
	12H	20.56	21.50	20.99	21.88	22.31	7.00	7.94	7.44	8.32	8.75
4H	2H	17.21	18.33	17.61	18.68	19.06	6.53	7.65	6.93	8.00	8.38
	3H	19.00	19.92	19.41	20.33	20.73	7.33	8.25	7.74	8.65	9.06
	4H	19.70	20.52	20.13	20.94	21.38	7.59	8.41	8.02	8.83	9.27
	6H	20.27	20.98	20.73	21.42	21.89	7.79	8.50	8.25	8.94	9.41
	8H	20.44	21.11	20.91	21.55	22.02	7.84	8.50	8.31	8.95	9.42
	12H	20.53	21.12	21.01	21.60	22.07	7.87	8.46	8.36	8.94	9.42
8H	4H	19.57	20.24	20.04	20.68	21.15	7.90	8.57	8.37	9.01	9.48
	6H	20.13	20.67	20.63	21.17	21.65	8.15	8.69	8.65	9.19	9.67
	8H	20.30	20.79	20.82	21.30	21.80	8.24	8.73	8.76	9.24	9.73
	12H	20.41	20.84	20.92	21.33	21.90	8.32	8.75	8.84	9.24	9.82
12H	4H	19.53	20.12	20.02	20.60	21.07	7.95	8.54	8.43	9.02	9.49
	6H	20.07	20.56	20.59	21.07	21.56	8.20	8.69	8.72	9.20	9.69
	8H	20.26	20.69	20.78	21.19	21.76	8.33	8.75	8.84	9.25	9.82