

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: P1055612

Luminaire Tested: S123R3DR-S340D850-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055612  
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-S340D850-X4F0-XX-UDD-F-S  
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

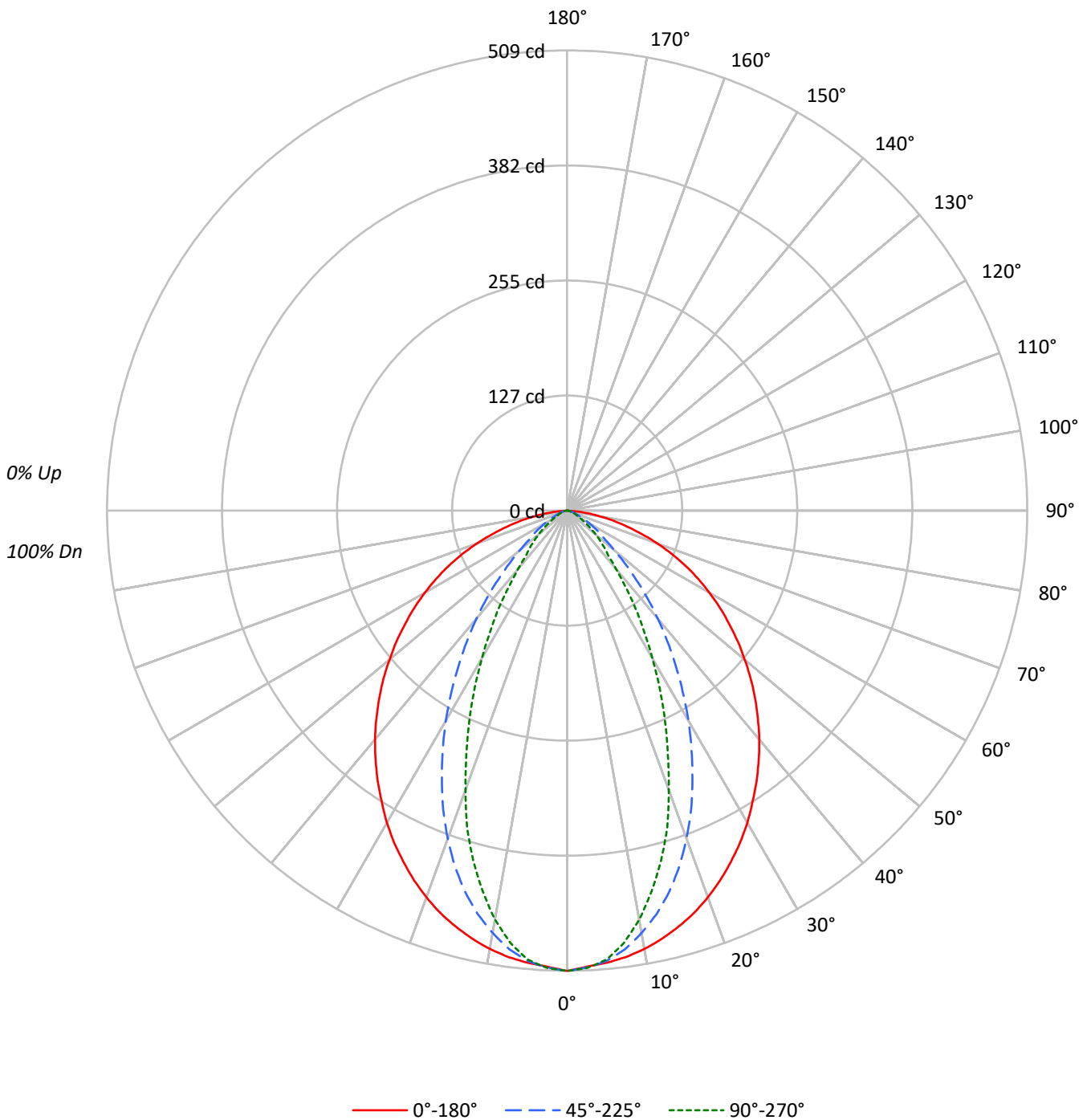
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 708.2 lumens  
Efficiency: N/A  
Efficacy: 56.2 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): 12.6  
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	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	62	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°	6139	6139	6139
5°	6075	6052	6034
10°	6028	5809	5625
15°	5946	5447	5006
20°	5840	4955	4217
25°	5702	4361	3403
30°	5551	3737	2621
35°	5378	3083	1940
40°	5205	2454	1322
45°	5013	1835	996
50°	4807	1277	778
55°	4597	933	568
60°	4376	699	408
65°	4117	468	317
70°	3726	342	254
75°	3214	247	200
80°	2583	201	167
85°	1342	194	138

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5013 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.1	6.6
10°-20°	122.5	17.3
20°-30°	154.0	21.7
30°-40°	143.4	20.2
40°-50°	109.8	15.5
50°-60°	73.0	10.3
60°-70°	39.3	5.6
70°-80°	16.1	2.3
80°-90°	3.1	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°	323.6	45.7
0°-40°	467.0	65.9
0°-60°	649.7	91.7
0°-90°	708.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	708.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	509	509	509	509	509	
5°	502	507	500	498	499	48
15°	476	469	436	411	401	134
25°	429	400	328	273	256	197
35°	365	311	210	148	132	228
45°	294	217	108	63	58	227
55°	219	126	44	31	27	196
65°	144	49	16	12	11	143
75°	69	12	5	5	4	74
85°	10	1	1	1	1	14
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	509.2	509.2	509.2	509.2	509.2
2.5°	504.9	511.2	505.9	506.4	506.4
5°	502.0	507.3	500.1	498.1	498.6
7.5°	498.1	501.5	489.5	483.2	482.2
10°	492.4	493.3	474.5	463.4	459.5
12.5°	485.1	481.7	457.1	438.8	431.5
15°	476.4	468.7	436.4	410.8	401.1
17.5°	466.8	453.7	412.7	379.4	367.8
20°	455.2	436.8	386.2	344.6	328.7
22.5°	442.6	419.0	358.2	308.9	291.1
25°	428.6	399.7	327.8	273.2	255.8
27.5°	414.2	378.9	297.8	239.4	221.6
30°	398.7	357.7	268.4	206.6	188.3
32.5°	381.8	334.5	238.0	176.2	157.8
35°	365.4	311.3	209.5	148.2	131.8
37.5°	348.0	288.2	182.0	123.6	105.2
40°	330.7	264.5	155.9	99.4	84.0
42.5°	312.3	240.9	131.3	79.2	67.1
45°	294.0	217.2	107.6	63.2	58.4
47.5°	275.6	193.6	86.9	54.5	49.7
50°	256.3	170.9	68.1	46.3	41.5
52.5°	238.0	148.2	53.1	38.1	33.8
55°	218.7	126.5	44.4	30.9	27.0
57.5°	200.8	104.3	36.7	24.1	21.2
60°	181.5	84.5	29.0	18.8	16.9
62.5°	163.2	66.1	22.2	15.0	13.5
65°	144.3	48.8	16.4	12.1	11.1
67.5°	125.5	35.2	12.6	9.7	9.2
70°	105.7	26.5	9.7	7.7	7.2
72.5°	86.9	18.8	7.2	6.3	5.8
75°	69.0	11.6	5.3	4.8	4.3
77.5°	53.1	6.8	3.9	3.9	3.4
80°	37.2	3.9	2.9	2.9	2.4
82.5°	22.7	2.4	1.9	1.9	1.9
85°	9.7	1.4	1.4	1.4	1.0
87.5°	1.4	0.5	0.5	0.5	0.5
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	16.12	17.48	16.48	17.79	18.10	4.68	6.04	5.05	6.35	6.67
	3H	17.87	19.08	18.25	19.41	19.77	5.35	6.55	5.73	6.88	7.25
	4H	18.57	19.70	18.97	20.05	20.43	5.54	6.67	5.94	7.02	7.40
	6H	19.08	20.12	19.50	20.49	20.88	5.67	6.70	6.08	7.07	7.46
	8H	19.22	20.20	19.65	20.60	21.00	5.70	6.68	6.13	7.07	7.47
	12H	19.28	20.21	19.71	20.60	21.03	5.71	6.65	6.14	7.03	7.46
4H	2H	15.93	17.05	16.33	17.40	17.78	5.24	6.36	5.64	6.71	7.10
	3H	17.72	18.64	18.13	19.04	19.45	6.04	6.96	6.45	7.36	7.77
	4H	18.41	19.24	18.85	19.66	20.10	6.30	7.12	6.73	7.54	7.98
	6H	18.98	19.70	19.45	20.14	20.61	6.50	7.21	6.96	7.65	8.12
	8H	19.16	19.82	19.63	20.27	20.74	6.55	7.21	7.02	7.66	8.13
	12H	19.25	19.83	19.73	20.32	20.79	6.58	7.17	7.07	7.65	8.12
8H	4H	18.29	18.95	18.76	19.40	19.87	6.61	7.27	7.08	7.72	8.19
	6H	18.85	19.39	19.35	19.88	20.36	6.86	7.40	7.36	7.90	8.38
	8H	19.02	19.51	19.54	20.02	20.51	6.95	7.43	7.47	7.95	8.44
	12H	19.13	19.55	19.64	20.05	20.62	7.03	7.45	7.54	7.95	8.52
12H	4H	18.25	18.83	18.73	19.32	19.79	6.66	7.24	7.14	7.73	8.20
	6H	18.79	19.27	19.31	19.79	20.28	6.91	7.39	7.43	7.91	8.40
	8H	18.98	19.41	19.50	19.90	20.48	7.03	7.46	7.54	7.95	8.52