

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: P1055609

Luminaire Tested: S123R3DR-S340D840-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055609  
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-S340D840-X4F0-XX-UDD-F-S  
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

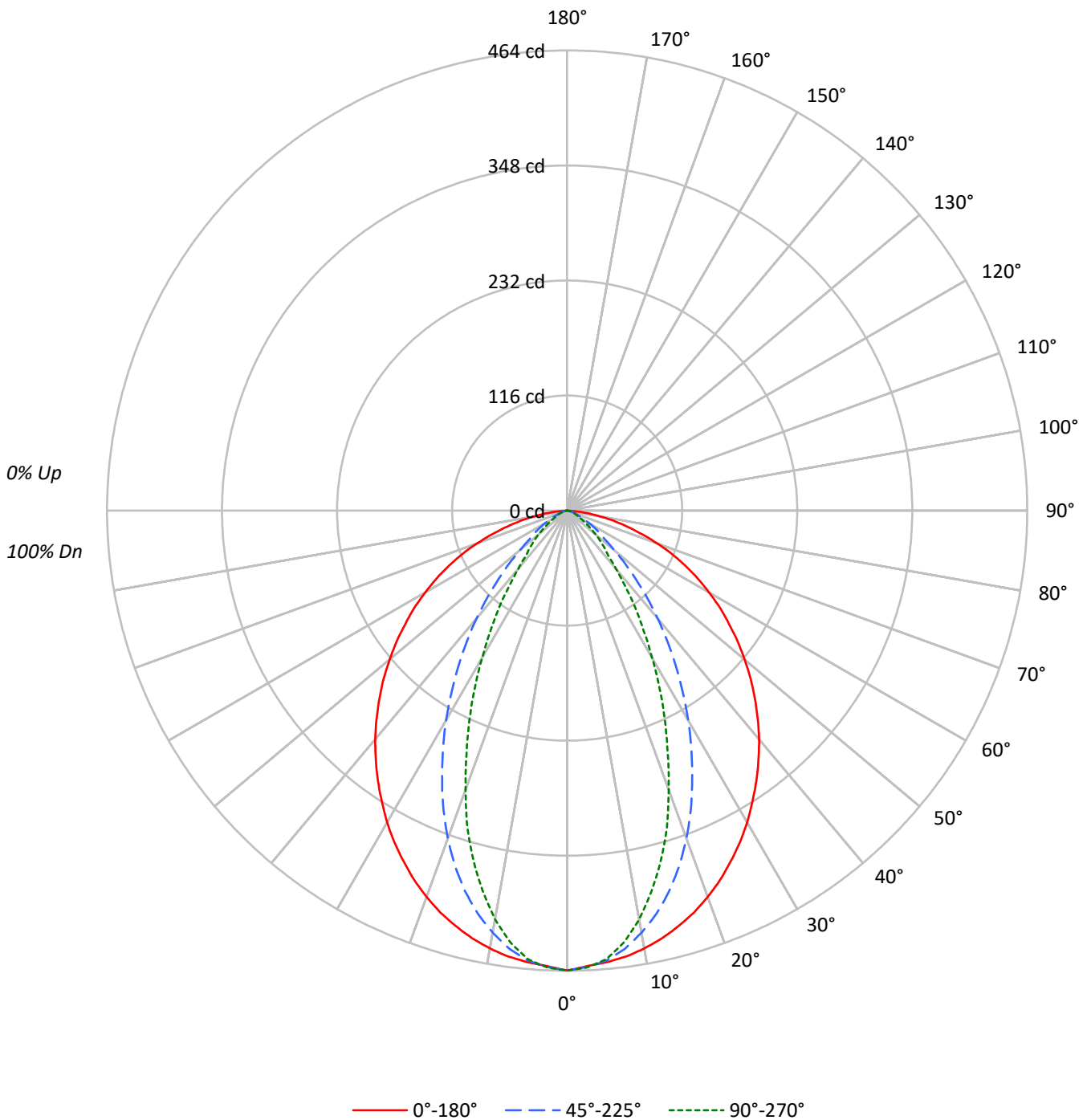
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 644.9 lumens  
Efficiency: N/A  
Efficacy: 51.2 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	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	62	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°	5591	5591	5591
5°	5532	5511	5496
10°	5488	5290	5123
15°	5415	4960	4560
20°	5318	4511	3840
25°	5192	3971	3100
30°	5055	3402	2386
35°	4897	2808	1766
40°	4739	2235	1204
45°	4564	1671	907
50°	4378	1163	709
55°	4185	849	517
60°	3986	637	371
65°	3749	425	288
70°	3395	310	233
75°	2930	224	186
80°	2347	181	153
85°	1217	180	124

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4564 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.9	6.6
10°-20°	111.6	17.3
20°-30°	140.2	21.7
30°-40°	130.6	20.2
40°-50°	100.0	15.5
50°-60°	66.4	10.3
60°-70°	35.8	5.6
70°-80°	14.7	2.3
80°-90°	2.8	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°	294.6	45.7
0°-40°	425.2	65.9
0°-60°	591.6	91.7
0°-90°	644.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	644.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	464	464	464	464	464	
5°	457	462	455	454	454	43
15°	434	427	397	374	365	122
25°	390	364	298	249	233	180
35°	333	284	191	135	120	208
45°	268	198	98	58	53	207
55°	199	115	40	28	25	178
65°	131	44	15	11	10	130
75°	63	10	5	4	4	67
85°	9	1	1	1	1	13
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	463.7	463.7	463.7	463.7	463.7
2.5°	459.8	465.5	460.7	461.1	461.1
5°	457.1	462.0	455.4	453.6	454.1
7.5°	453.6	456.7	445.7	440.0	439.1
10°	448.3	449.2	432.1	422.0	418.5
12.5°	441.7	438.7	416.3	399.6	393.0
15°	433.8	426.8	397.4	374.1	365.3
17.5°	425.0	413.2	375.8	345.5	334.9
20°	414.5	397.8	351.6	313.8	299.3
22.5°	403.1	381.5	326.1	281.3	265.0
25°	390.3	363.9	298.5	248.8	233.0
27.5°	377.1	345.0	271.2	218.0	201.8
30°	363.1	325.7	244.4	188.1	171.4
32.5°	347.7	304.6	216.7	160.4	143.7
35°	332.7	283.5	190.8	134.9	120.0
37.5°	316.9	262.4	165.7	112.5	95.8
40°	301.1	240.9	142.0	90.5	76.5
42.5°	284.4	219.3	119.6	72.1	61.1
45°	267.7	197.8	98.0	57.6	53.2
47.5°	251.0	176.3	79.1	49.7	45.3
50°	233.4	155.6	62.0	42.2	37.8
52.5°	216.7	134.9	48.4	34.7	30.8
55°	199.1	115.2	40.4	28.1	24.6
57.5°	182.9	94.9	33.4	22.0	19.3
60°	165.3	76.9	26.4	17.1	15.4
62.5°	148.6	60.2	20.2	13.6	12.3
65°	131.4	44.4	14.9	11.0	10.1
67.5°	114.3	32.1	11.4	8.8	8.4
70°	96.3	24.2	8.8	7.0	6.6
72.5°	79.1	17.1	6.6	5.7	5.3
75°	62.9	10.5	4.8	4.4	4.0
77.5°	48.4	6.2	3.5	3.5	3.1
80°	33.8	3.5	2.6	2.6	2.2
82.5°	20.7	2.2	1.8	1.8	1.8
85°	8.8	1.3	1.3	1.3	0.9
87.5°	1.3	0.4	0.4	0.4	0.4
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	15.79	17.15	16.16	17.46	17.78	4.37	5.73	4.73	6.04	6.35
	3H	17.55	18.75	17.93	19.08	19.45	5.03	6.24	5.41	6.57	6.93
	4H	18.25	19.37	18.65	19.72	20.10	5.23	6.36	5.63	6.71	7.09
	6H	18.76	19.79	19.17	20.16	20.56	5.35	6.39	5.77	6.76	7.15
	8H	18.90	19.88	19.33	20.27	20.67	5.39	6.37	5.82	6.76	7.17
	12H	18.95	19.89	19.38	20.27	20.70	5.40	6.34	5.84	6.72	7.15
4H	2H	15.60	16.72	16.00	17.07	17.46	4.92	6.04	5.32	6.40	6.78
	3H	17.39	18.31	17.81	18.72	19.12	5.72	6.64	6.13	7.04	7.45
	4H	18.09	18.91	18.52	19.33	19.77	5.98	6.80	6.42	7.22	7.67
	6H	18.66	19.37	19.12	19.82	20.28	6.18	6.89	6.64	7.33	7.80
	8H	18.83	19.50	19.30	19.94	20.41	6.23	6.90	6.70	7.34	7.81
	12H	18.92	19.51	19.41	19.99	20.46	6.27	6.86	6.75	7.34	7.81
8H	4H	17.96	18.63	18.43	19.07	19.54	6.29	6.96	6.76	7.40	7.87
	6H	18.52	19.06	19.02	19.56	20.04	6.54	7.08	7.04	7.58	8.06
	8H	18.70	19.18	19.22	19.70	20.19	6.63	7.12	7.15	7.63	8.12
	12H	18.80	19.23	19.31	19.72	20.29	6.71	7.14	7.23	7.64	8.21
12H	4H	17.92	18.51	18.41	18.99	19.46	6.34	6.92	6.82	7.41	7.88
	6H	18.46	18.95	18.98	19.46	19.95	6.58	7.07	7.11	7.59	8.08
	8H	18.66	19.08	19.17	19.58	20.15	6.72	7.14	7.23	7.64	8.21