

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: P1055738

Luminaire Tested: S123R3DR-H340D830-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055738  
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-H340D830-X4F0-XX-UDD-F-S  
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

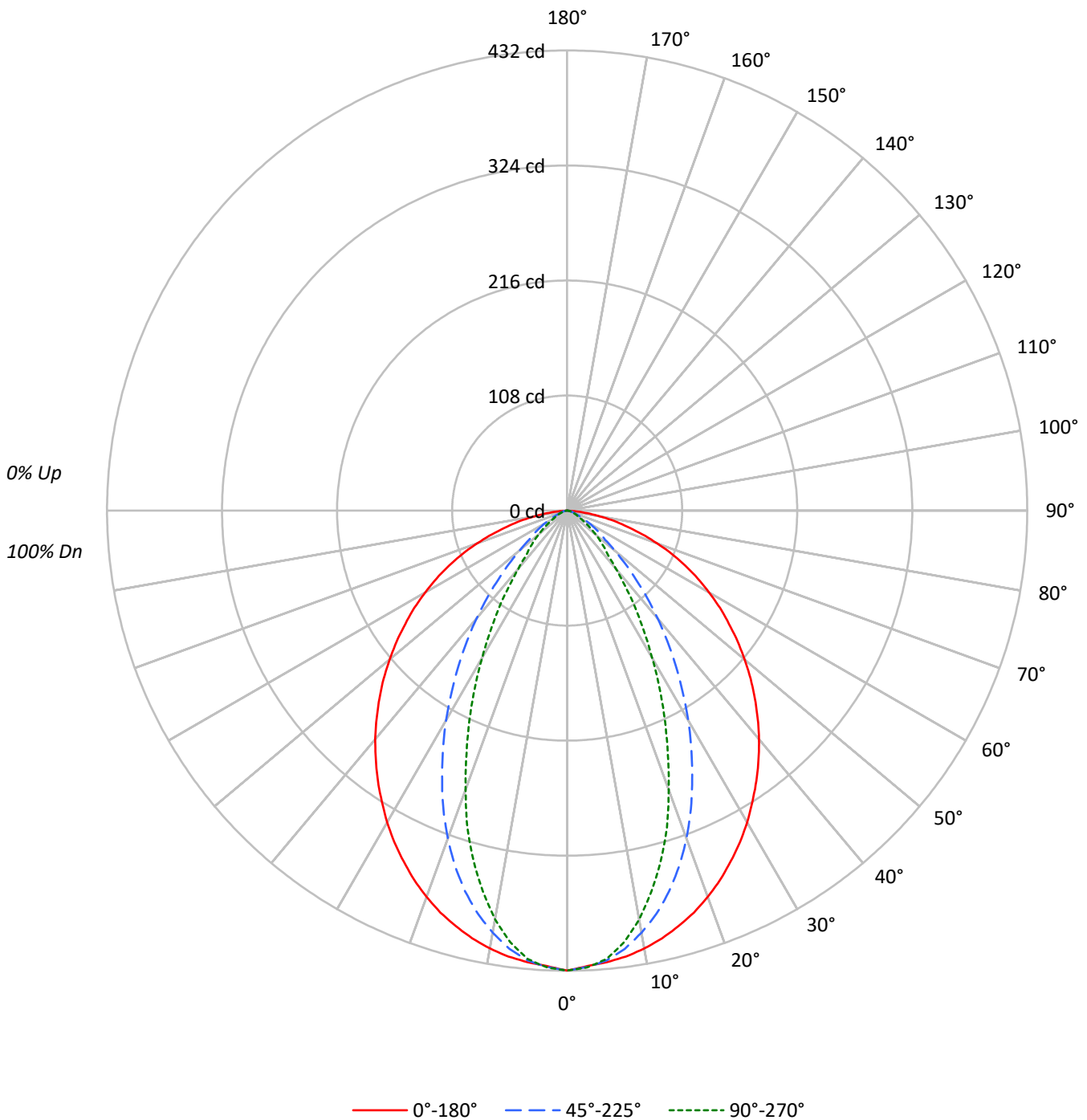
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 600.4 lumens  
Efficiency: N/A  
Efficacy: 51.3 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): 11.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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°	5206	5206	5206
5°	5151	5131	5116
10°	5110	4925	4770
15°	5041	4618	4245
20°	4951	4201	3576
25°	4834	3697	2885
30°	4705	3167	2222
35°	4560	2614	1644
40°	4412	2081	1121
45°	4249	1557	844
50°	4076	1082	660
55°	3897	792	481
60°	3711	593	345
65°	3492	397	268
70°	3158	289	215
75°	2725	210	172
80°	2187	174	139
85°	1134	166	111

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4249 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	39.9	6.6
10°-20°	103.9	17.3
20°-30°	130.5	21.7
30°-40°	121.6	20.2
40°-50°	93.1	15.5
50°-60°	61.9	10.3
60°-70°	33.3	5.6
70°-80°	13.7	2.3
80°-90°	2.6	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°	274.3	45.7
0°-40°	395.9	65.9
0°-60°	550.8	91.7
0°-90°	600.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	600.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	432	432	432	432	432	
5°	426	430	424	422	423	40
15°	404	397	370	348	340	114
25°	363	339	278	232	217	167
35°	310	264	178	126	112	194
45°	249	184	91	54	50	192
55°	185	107	38	26	23	166
65°	122	41	14	10	9	121
75°	58	10	4	4	4	63
85°	8	1	1	1	1	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	431.8	431.8	431.8	431.8	431.8
2.5°	428.1	433.4	428.9	429.3	429.3
5°	425.6	430.1	424.0	422.3	422.7
7.5°	422.3	425.2	415.0	409.7	408.8
10°	417.4	418.2	402.3	392.9	389.6
12.5°	411.3	408.4	387.6	372.0	365.9
15°	403.9	397.4	370.0	348.3	340.1
17.5°	395.7	384.7	349.9	321.7	311.8
20°	385.9	370.4	327.4	292.2	278.7
22.5°	375.3	355.2	303.7	261.9	246.8
25°	363.4	338.9	277.9	231.6	216.9
27.5°	351.1	321.3	252.5	203.0	187.8
30°	338.0	303.2	227.5	175.2	159.6
32.5°	323.7	283.6	201.8	149.4	133.8
35°	309.8	264.0	177.6	125.6	111.7
37.5°	295.1	244.3	154.3	104.8	89.2
40°	280.3	224.3	132.2	84.3	71.2
42.5°	264.8	204.2	111.3	67.1	56.9
45°	249.2	184.2	91.3	53.6	49.5
47.5°	233.7	164.1	73.7	46.2	42.2
50°	217.3	144.9	57.7	39.3	35.2
52.5°	201.8	125.6	45.0	32.3	28.6
55°	185.4	107.2	37.7	26.2	22.9
57.5°	170.2	88.4	31.1	20.5	18.0
60°	153.9	71.6	24.6	16.0	14.3
62.5°	138.3	56.1	18.8	12.7	11.5
65°	122.4	41.3	13.9	10.2	9.4
67.5°	106.4	29.9	10.6	8.2	7.8
70°	89.6	22.5	8.2	6.5	6.1
72.5°	73.7	16.0	6.1	5.3	4.9
75°	58.5	9.8	4.5	4.1	3.7
77.5°	45.0	5.7	3.3	3.3	2.9
80°	31.5	3.3	2.5	2.5	2.0
82.5°	19.2	2.0	1.6	1.6	1.6
85°	8.2	1.2	1.2	1.2	0.8
87.5°	1.2	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	15.54	16.90	15.91	17.21	17.53	4.13	5.49	4.49	5.80	6.11
	3H	17.30	18.50	17.68	18.83	19.20	4.79	5.99	5.17	6.32	6.69
	4H	18.00	19.12	18.40	19.47	19.85	4.98	6.11	5.39	6.46	6.84
	6H	18.51	19.54	18.92	19.91	20.31	5.11	6.14	5.52	6.51	6.90
	8H	18.65	19.63	19.08	20.02	20.42	5.14	6.12	5.57	6.51	6.91
	12H	18.70	19.64	19.13	20.02	20.45	5.15	6.08	5.58	6.47	6.90
4H	2H	15.35	16.48	15.75	16.83	17.21	4.68	5.81	5.08	6.16	6.54
	3H	17.14	18.07	17.56	18.47	18.87	5.48	6.40	5.89	6.80	7.20
	4H	17.84	18.66	18.27	19.08	19.52	5.73	6.56	6.17	6.98	7.42
	6H	18.41	19.12	18.87	19.57	20.03	5.93	6.65	6.40	7.09	7.56
	8H	18.58	19.25	19.05	19.69	20.16	5.98	6.65	6.45	7.09	7.56
	12H	18.67	19.26	19.16	19.74	20.21	6.01	6.60	6.50	7.08	7.56
8H	4H	17.72	18.38	18.18	18.83	19.30	6.05	6.71	6.52	7.16	7.63
	6H	18.27	18.81	18.77	19.31	19.79	6.30	6.84	6.80	7.34	7.82
	8H	18.45	18.93	18.97	19.45	19.94	6.38	6.87	6.90	7.38	7.88
	12H	18.55	18.98	19.06	19.47	20.04	6.46	6.89	6.97	7.38	7.95
12H	4H	17.67	18.26	18.16	18.74	19.22	6.09	6.68	6.58	7.16	7.64
	6H	18.21	18.70	18.73	19.21	19.70	6.35	6.83	6.87	7.35	7.84
	8H	18.41	18.83	18.92	19.33	19.90	6.47	6.89	6.98	7.39	7.96