

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: P1055737

Luminaire Tested: S123R3DR-H340D830-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055737  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-H340D830-X4F0-XX-UDD-FLL-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

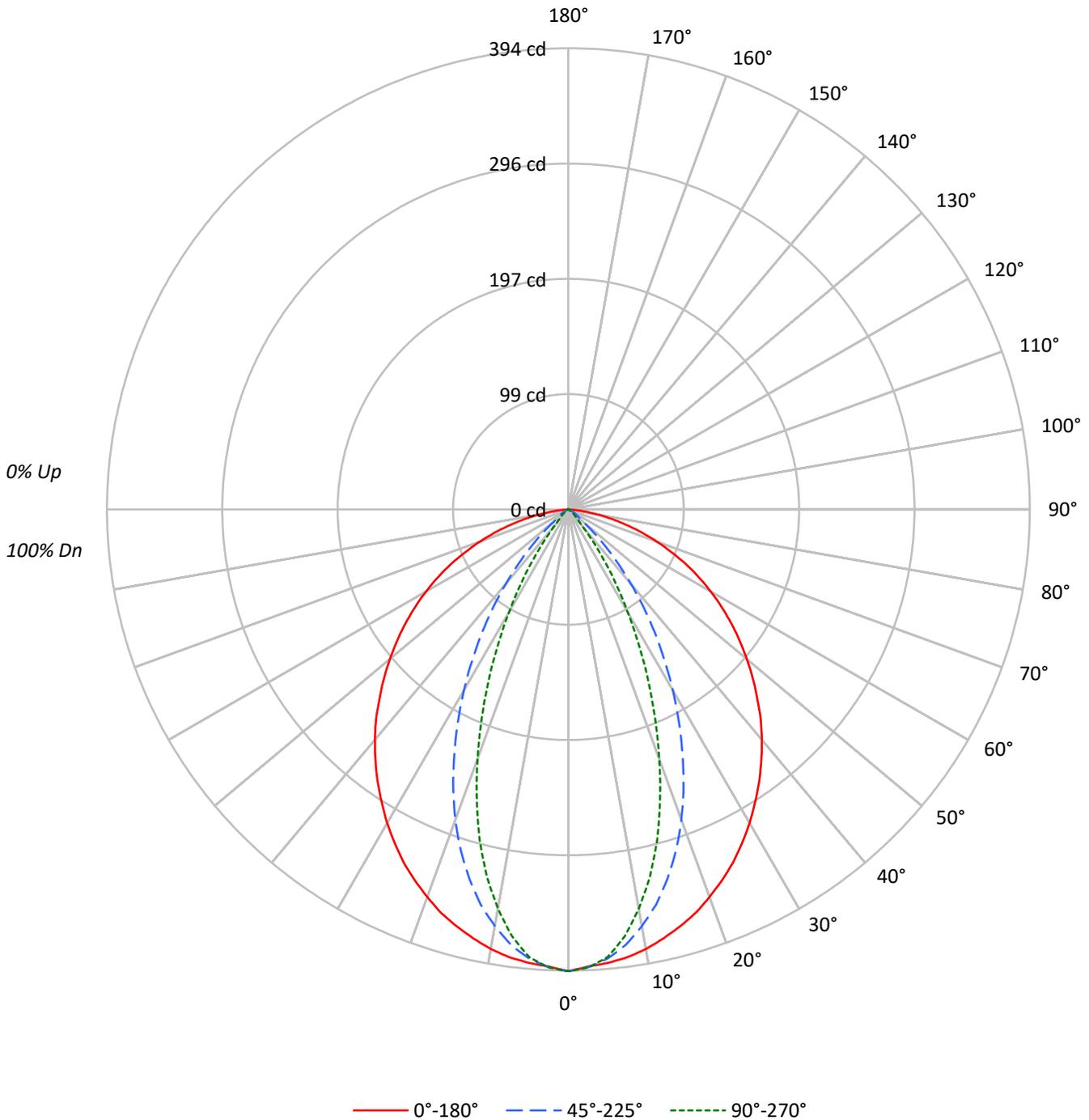
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 461.7 lumens  
Efficiency: N/A  
Efficacy: 39.5 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86  
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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61
6	81	70	63	58	79	69	62	57	67	61	57	66	61	56	64	60	56
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41

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

	0°	45°	90°
0°	4756	4756	4756
5°	4705	4661	4646
10°	4669	4424	4238
15°	4602	4077	3652
20°	4521	3618	2909
25°	4426	3065	2144
30°	4307	2484	1407
35°	4180	1891	771
40°	4045	1308	264
45°	3886	760	153
50°	3731	300	92
55°	3569	189	42
60°	3385	118	19
65°	3152	57	11
70°	2827	28	14
75°	2404	19	19
80°	1791	28	0
85°	678	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3886 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	36.2	7.8
10°-20°	91.8	19.9
20°-30°	109.5	23.7
30°-40°	92.9	20.1
40°-50°	63.1	13.7
50°-60°	39.1	8.5
60°-70°	19.8	4.3
70°-80°	8.1	1.7
80°-90°	1.2	0.3
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°	237.5	51.4
0°-40°	330.3	71.5
0°-60°	432.6	93.7
0°-90°	461.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	461.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	394	394	394	394	394	
5°	389	392	385	382	384	37
15°	369	359	327	301	293	104
25°	333	302	230	178	161	153
35°	284	228	128	69	52	178
45°	228	149	45	11	9	176
55°	170	75	9	3	2	152
65°	110	18	2	0	0	109
75°	52	3	0	0	0	55
85°	5	0	0	0	0	9
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	394.5	394.5	394.5	394.5	394.5
2.5°	390.8	396.1	391.6	391.2	391.6
5°	388.8	392.5	385.1	382.2	383.9
7.5°	385.9	387.6	375.3	367.9	367.9
10°	381.4	380.2	361.4	349.1	346.2
12.5°	375.3	370.4	345.8	326.6	321.3
15°	368.7	359.3	326.6	300.8	292.6
17.5°	361.4	347.0	305.7	272.1	260.3
20°	352.4	333.1	282.0	241.0	226.7
22.5°	342.9	318.0	257.0	209.1	193.2
25°	332.7	301.6	230.4	178.0	161.2
27.5°	321.3	284.4	204.2	148.1	129.7
30°	309.4	266.4	178.4	119.5	101.1
32.5°	296.7	247.6	152.6	93.3	76.1
35°	284.0	227.9	128.5	69.2	52.4
37.5°	270.5	208.3	105.2	47.9	33.1
40°	257.0	189.1	83.1	30.3	16.8
42.5°	243.1	169.0	63.0	15.1	11.5
45°	227.9	149.4	44.6	11.0	9.0
47.5°	213.6	130.5	29.5	9.0	7.0
50°	198.9	111.7	16.0	6.5	4.9
52.5°	184.2	93.7	11.5	4.9	3.3
55°	169.8	75.3	9.0	3.3	2.0
57.5°	155.1	59.3	7.0	2.0	1.2
60°	140.4	43.8	4.9	1.2	0.8
62.5°	125.6	30.3	3.3	0.8	0.4
65°	110.5	18.4	2.0	0.4	0.4
67.5°	94.9	12.7	1.2	0.4	0.4
70°	80.2	9.0	0.8	0.4	0.4
72.5°	65.5	5.7	0.4	0.4	0.0
75°	51.6	3.3	0.4	0.4	0.4
77.5°	38.1	1.2	0.4	0.4	0.0
80°	25.8	0.4	0.4	0.4	0.0
82.5°	14.3	0.0	0.4	0.4	0.0
85°	4.9	0.0	0.0	0.4	0.0
87.5°	0.0	0.0	0.0	0.4	0.0
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	14.46	15.74	14.83	16.06	16.37	0.00	0.00	0.00	0.00	0.00
	3H	16.41	17.54	16.79	17.87	18.24	0.00	0.00	0.00	0.00	0.00
	4H	17.24	18.29	17.64	18.64	19.03	0.00	0.00	0.00	0.00	0.00
	6H	17.79	18.76	18.21	19.13	19.53	0.00	0.00	0.00	0.00	0.00
	8H	17.92	18.84	18.35	19.23	19.63	0.00	0.00	0.00	0.00	0.00
	12H	17.94	18.82	18.38	19.20	19.63	0.00	0.00	0.00	0.00	0.00
4H	2H	14.23	15.28	14.63	15.63	16.02	0.00	0.00	0.00	0.00	0.00
	3H	16.18	17.04	16.59	17.45	17.85	0.00	0.00	0.00	0.00	0.00
	4H	17.00	17.77	17.43	18.19	18.63	0.00	0.00	0.00	0.00	0.00
	6H	17.60	18.26	18.06	18.71	19.17	0.00	0.00	0.00	0.00	0.00
	8H	17.75	18.37	18.22	18.82	19.29	0.00	0.00	0.00	0.00	0.00
	12H	17.80	18.34	18.28	18.82	19.30	0.00	0.00	0.00	0.00	0.00
8H	4H	16.85	17.47	17.32	17.92	18.39	0.00	0.00	0.00	0.00	0.00
	6H	17.44	17.94	17.94	18.44	18.92	0.00	0.00	0.00	0.00	0.00
	8H	17.59	18.03	18.11	18.55	19.04	0.00	0.00	0.00	0.00	0.00
	12H	17.64	18.04	18.16	18.53	19.11	0.00	0.00	0.00	0.00	0.00
12H	4H	16.80	17.35	17.29	17.83	18.31	0.00	0.00	0.00	0.00	0.00
	6H	17.37	17.82	17.90	18.34	18.83	0.00	0.00	0.00	0.00	0.00
	8H	17.54	17.94	18.06	18.43	19.00	0.00	0.00	0.00	0.00	0.00