

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: P1055755

Luminaire Tested: S123R3DR-H340D935-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055755  
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-H340D935-X4F0-XX-UDD-FLL-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

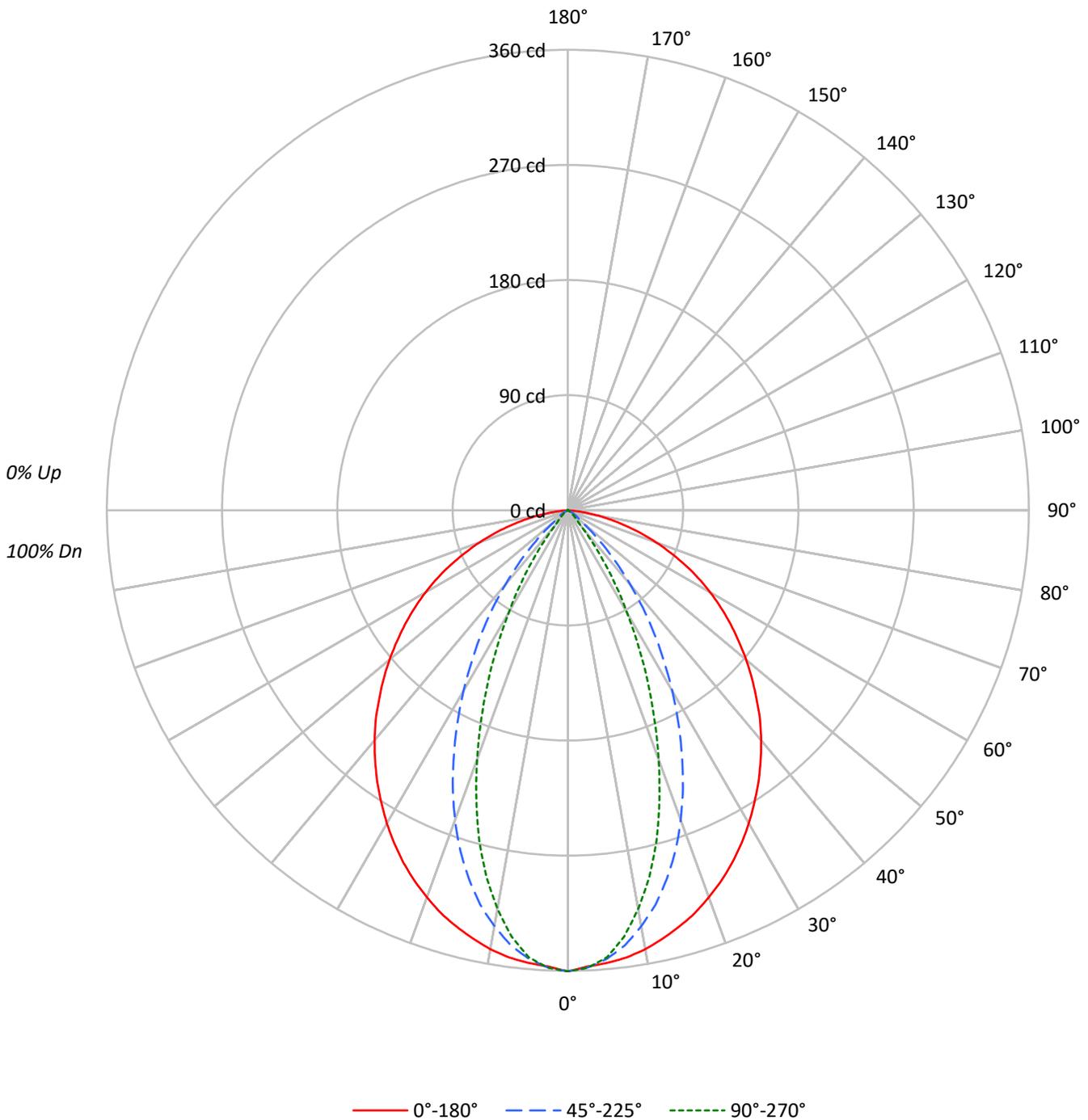
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 421.8 lumens  
Efficiency: N/A  
Efficacy: 36.1 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

TEST NUMBER: P1055755

CATALOG NUMBER: S123R3DR-H340D935-X4F0-XX-UDD-FLL-B

### Luminous Intensity Polar Plot





TEST NUMBER: P1055755

CATALOG NUMBER: S123R3DR-H340D935-X4F0-XX-UDD-FLL-B

**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	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59
6	81	70	63	57	79	69	62	57	67	61	57	66	60	56	64	60	56	54
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40

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

	0°	45°	90°
0°	4345	4345	4345
5°	4298	4258	4244
10°	4265	4041	3872
15°	4204	3723	3336
20°	4130	3305	2657
25°	4043	2800	1959
30°	3934	2269	1285
35°	3818	1728	705
40°	3695	1195	241
45°	3550	694	140
50°	3408	274	84
55°	3260	172	40
60°	3091	109	17
65°	2878	54	11
70°	2584	25	14
75°	2194	19	19
80°	1639	28	0
85°	622	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3550 cd/sqm



TEST NUMBER: P1055755

CATALOG NUMBER: S123R3DR-H340D935-X4F0-XX-UDD-FLL-B

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	33.0	7.8
10°-20°	83.9	19.9
20°-30°	100.0	23.7
30°-40°	84.8	20.1
40°-50°	57.7	13.7
50°-60°	35.7	8.5
60°-70°	18.1	4.3
70°-80°	7.4	1.8
80°-90°	1.1	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°	216.9	51.4
0°-40°	301.8	71.5
0°-60°	395.2	93.7
0°-90°	421.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	421.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	360	360	360	360	360	
5°	355	358	352	349	351	34
15°	337	328	298	275	267	95
25°	304	276	210	163	147	140
35°	259	208	117	63	48	162
45°	208	136	41	10	8	161
55°	155	69	8	3	2	139
65°	101	17	2	0	0	100
75°	47	3	0	0	0	50
85°	4	0	0	0	0	8
90°	0	0	0	0	0	



TEST NUMBER: P1055755

CATALOG NUMBER: S123R3DR-H340D935-X4F0-XX-UDD-FLL-B

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	360.4	360.4	360.4	360.4	360.4
2.5°	357.0	361.9	357.8	357.4	357.8
5°	355.1	358.5	351.8	349.2	350.7
7.5°	352.5	354.0	342.8	336.1	336.1
10°	348.4	347.3	330.1	318.9	316.3
12.5°	342.8	338.3	315.9	298.3	293.5
15°	336.8	328.2	298.3	274.8	267.3
17.5°	330.1	317.0	279.3	248.6	237.8
20°	321.9	304.3	257.6	220.2	207.1
22.5°	313.3	290.5	234.8	191.0	176.5
25°	303.9	275.5	210.5	162.6	147.3
27.5°	293.5	259.8	186.5	135.3	118.5
30°	282.6	243.4	163.0	109.2	92.3
32.5°	271.0	226.2	139.4	85.2	69.5
35°	259.4	208.2	117.4	63.2	47.9
37.5°	247.1	190.3	96.1	43.7	30.3
40°	234.8	172.7	75.9	27.7	15.3
42.5°	222.1	154.4	57.6	13.8	10.5
45°	208.2	136.5	40.7	10.1	8.2
47.5°	195.1	119.3	26.9	8.2	6.4
50°	181.7	102.1	14.6	6.0	4.5
52.5°	168.2	85.6	10.5	4.5	3.0
55°	155.1	68.8	8.2	3.0	1.9
57.5°	141.7	54.2	6.4	1.9	1.1
60°	128.2	40.0	4.5	1.1	0.7
62.5°	114.8	27.7	3.0	0.7	0.4
65°	100.9	16.8	1.9	0.4	0.4
67.5°	86.7	11.6	1.1	0.4	0.4
70°	73.3	8.2	0.7	0.4	0.4
72.5°	59.8	5.2	0.4	0.4	0.0
75°	47.1	3.0	0.4	0.4	0.4
77.5°	34.8	1.1	0.4	0.4	0.0
80°	23.6	0.4	0.4	0.4	0.0
82.5°	13.1	0.0	0.4	0.4	0.0
85°	4.5	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



TEST NUMBER: P1055755  
 CATALOG NUMBER: S123R3DR-H340D935-X4F0-XX-UDD-FLL-B

**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	14.15	15.43	14.52	15.74	16.06	0.00	0.00	0.00	0.00	0.00
	3H	16.10	17.23	16.48	17.56	17.93	0.00	0.00	0.00	0.00	0.00
	4H	16.92	17.98	17.33	18.33	18.71	0.00	0.00	0.00	0.00	0.00
	6H	17.48	18.45	17.89	18.82	19.21	0.00	0.00	0.00	0.00	0.00
	8H	17.60	18.52	18.04	18.91	19.32	0.00	0.00	0.00	0.00	0.00
	12H	17.63	18.51	18.06	18.89	19.32	0.00	0.00	0.00	0.00	0.00
4H	2H	13.91	14.97	14.32	15.32	15.71	0.00	0.00	0.00	0.00	0.00
	3H	15.87	16.73	16.28	17.13	17.54	0.00	0.00	0.00	0.00	0.00
	4H	16.68	17.45	17.12	17.87	18.31	0.00	0.00	0.00	0.00	0.00
	6H	17.28	17.95	17.75	18.39	18.86	0.00	0.00	0.00	0.00	0.00
	8H	17.44	18.05	17.91	18.50	18.97	0.00	0.00	0.00	0.00	0.00
	12H	17.48	18.03	17.97	18.51	18.99	0.00	0.00	0.00	0.00	0.00
8H	4H	16.54	17.16	17.01	17.60	18.08	0.00	0.00	0.00	0.00	0.00
	6H	17.12	17.62	17.63	18.12	18.60	0.00	0.00	0.00	0.00	0.00
	8H	17.27	17.72	17.80	18.24	18.73	0.00	0.00	0.00	0.00	0.00
	12H	17.33	17.73	17.85	18.22	18.79	0.00	0.00	0.00	0.00	0.00
12H	4H	16.49	17.03	16.98	17.52	17.99	0.00	0.00	0.00	0.00	0.00
	6H	17.06	17.51	17.58	18.03	18.52	0.00	0.00	0.00	0.00	0.00
	8H	17.23	17.62	17.74	18.12	18.69	0.00	0.00	0.00	0.00	0.00