

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: P1055759

Luminaire Tested: S123R3DR-H340D940-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055759  
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-H340D940-X4F0-XX-UDD-F-S  
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

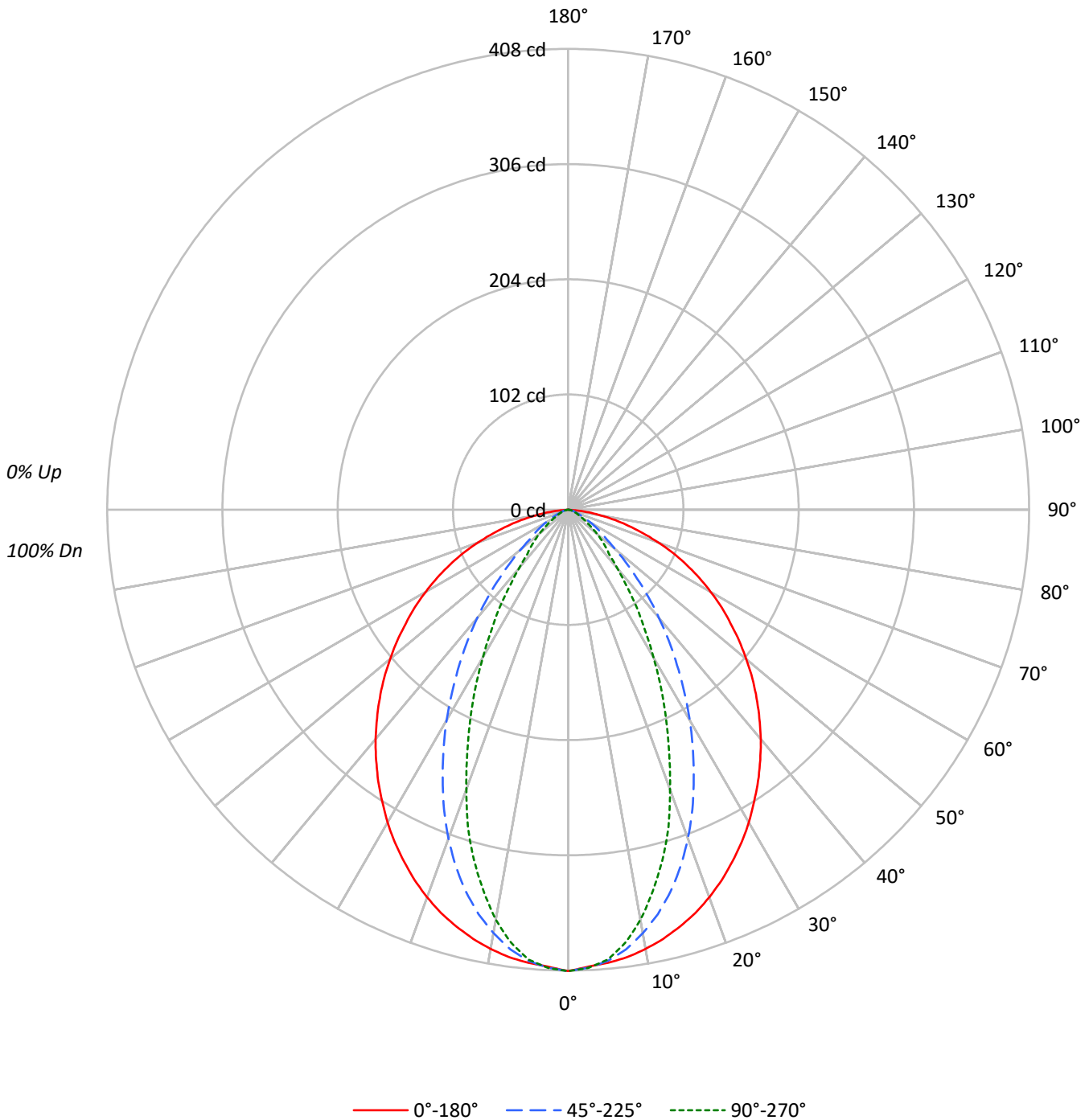
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 568.1 lumens  
Efficiency: N/A  
Efficacy: 48.6 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

TEST NUMBER: P1055759

CATALOG NUMBER: S123R3DR-H340D940-X4F0-XX-UDD-F-S

### Luminous Intensity Polar Plot





TEST NUMBER: P1055759

CATALOG NUMBER: S123R3DR-H340D940-X4F0-XX-UDD-F-S

**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	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	61	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°	4925	4925	4925
5°	4874	4854	4840
10°	4835	4659	4513
15°	4769	4369	4015
20°	4684	3974	3383
25°	4573	3497	2730
30°	4452	2997	2102
35°	4314	2473	1556
40°	4174	1969	1061
45°	4020	1471	798
50°	3856	1024	625
55°	3687	748	456
60°	3511	559	328
65°	3304	377	254
70°	2989	271	204
75°	2581	200	163
80°	2069	160	132
85°	1065	166	111

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4020 cd/sqm



TEST NUMBER: P1055759

CATALOG NUMBER: S123R3DR-H340D940-X4F0-XX-UDD-F-S

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	37.8	6.6
10°-20°	98.3	17.3
20°-30°	123.5	21.7
30°-40°	115.0	20.2
40°-50°	88.0	15.5
50°-60°	58.5	10.3
60°-70°	31.5	5.6
70°-80°	12.9	2.3
80°-90°	2.5	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°	259.5	45.7
0°-40°	374.5	65.9
0°-60°	521.1	91.7
0°-90°	568.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	568.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	408	408	408	408	408	
5°	403	407	401	400	400	38
15°	382	376	350	330	322	108
25°	344	321	263	219	205	158
35°	293	250	168	119	106	183
45°	236	174	86	51	47	182
55°	175	101	36	25	22	157
65°	116	39	13	10	9	114
75°	55	9	4	4	4	59
85°	8	1	1	1	1	11
90°	0	0	0	0	0	



TEST NUMBER: P1055759

CATALOG NUMBER: S123R3DR-H340D940-X4F0-XX-UDD-F-S

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	408.5	408.5	408.5	408.5	408.5
2.5°	405.0	410.0	405.8	406.1	406.1
5°	402.7	406.9	401.1	399.6	399.9
7.5°	399.6	402.3	392.6	387.6	386.8
10°	394.9	395.7	380.6	371.7	368.6
12.5°	389.1	386.4	366.7	351.9	346.1
15°	382.1	375.9	350.0	329.5	321.7
17.5°	374.4	363.9	331.0	304.3	295.0
20°	365.1	350.4	309.7	276.4	263.7
22.5°	355.0	336.1	287.3	247.8	233.5
25°	343.8	320.6	262.9	219.1	205.2
27.5°	332.2	303.9	238.9	192.0	177.7
30°	319.8	286.9	215.3	165.7	151.0
32.5°	306.3	268.3	190.9	141.3	126.6
35°	293.1	249.7	168.0	118.9	105.7
37.5°	279.2	231.1	146.0	99.1	84.4
40°	265.2	212.2	125.1	79.8	67.4
42.5°	250.5	193.2	105.3	63.5	53.8
45°	235.8	174.2	86.3	50.7	46.8
47.5°	221.1	155.3	69.7	43.8	39.9
50°	205.6	137.1	54.6	37.2	33.3
52.5°	190.9	118.9	42.6	30.6	27.1
55°	175.4	101.4	35.6	24.8	21.7
57.5°	161.1	83.6	29.4	19.4	17.0
60°	145.6	67.8	23.2	15.1	13.6
62.5°	130.9	53.0	17.8	12.0	10.8
65°	115.8	39.1	13.2	9.7	8.9
67.5°	100.7	28.3	10.1	7.7	7.4
70°	84.8	21.3	7.7	6.2	5.8
72.5°	69.7	15.1	5.8	5.0	4.6
75°	55.4	9.3	4.3	3.9	3.5
77.5°	42.6	5.4	3.1	3.1	2.7
80°	29.8	3.1	2.3	2.3	1.9
82.5°	18.2	1.9	1.5	1.5	1.5
85°	7.7	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



TEST NUMBER: P1055759  
 CATALOG NUMBER: S123R3DR-H340D940-X4F0-XX-UDD-F-S

**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	15.35	16.71	15.72	17.02	17.33	3.93	5.29	4.30	5.60	5.92
	3H	17.11	18.31	17.48	18.64	19.00	4.60	5.80	4.98	6.13	6.49
	4H	17.81	18.93	18.21	19.28	19.66	4.79	5.92	5.19	6.27	6.65
	6H	18.32	19.35	18.73	19.72	20.12	4.91	5.94	5.32	6.31	6.71
	8H	18.46	19.44	18.89	19.83	20.23	4.94	5.92	5.37	6.31	6.72
	12H	18.51	19.45	18.94	19.83	20.26	4.95	5.89	5.38	6.27	6.70
4H	2H	15.16	16.28	15.56	16.63	17.02	4.49	5.62	4.89	5.97	6.35
	3H	16.95	17.87	17.37	18.28	18.68	5.29	6.21	5.70	6.61	7.01
	4H	17.65	18.47	18.08	18.89	19.33	5.55	6.37	5.98	6.79	7.23
	6H	18.22	18.93	18.68	19.37	19.84	5.74	6.45	6.20	6.90	7.36
	8H	18.39	19.06	18.86	19.50	19.97	5.79	6.45	6.26	6.90	7.37
	12H	18.48	19.07	18.96	19.55	20.02	5.82	6.41	6.31	6.89	7.36
8H	4H	17.52	18.19	17.99	18.63	19.10	5.86	6.52	6.33	6.97	7.44
	6H	18.08	18.62	18.58	19.12	19.60	6.10	6.64	6.60	7.14	7.62
	8H	18.25	18.74	18.78	19.25	19.75	6.18	6.67	6.70	7.18	7.67
	12H	18.36	18.79	18.87	19.28	19.85	6.26	6.69	6.78	7.19	7.76
12H	4H	17.48	18.07	17.97	18.55	19.02	5.90	6.49	6.39	6.97	7.45
	6H	18.02	18.51	18.54	19.02	19.51	6.15	6.63	6.67	7.15	7.64
	8H	18.22	18.64	18.73	19.14	19.71	6.27	6.69	6.78	7.19	7.76