

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: P1055752

Luminaire Tested: S123R3DR-H340D930-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055752
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-H340D930-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, 90 CRI LEDS
Ballast/Driver: -

Summary

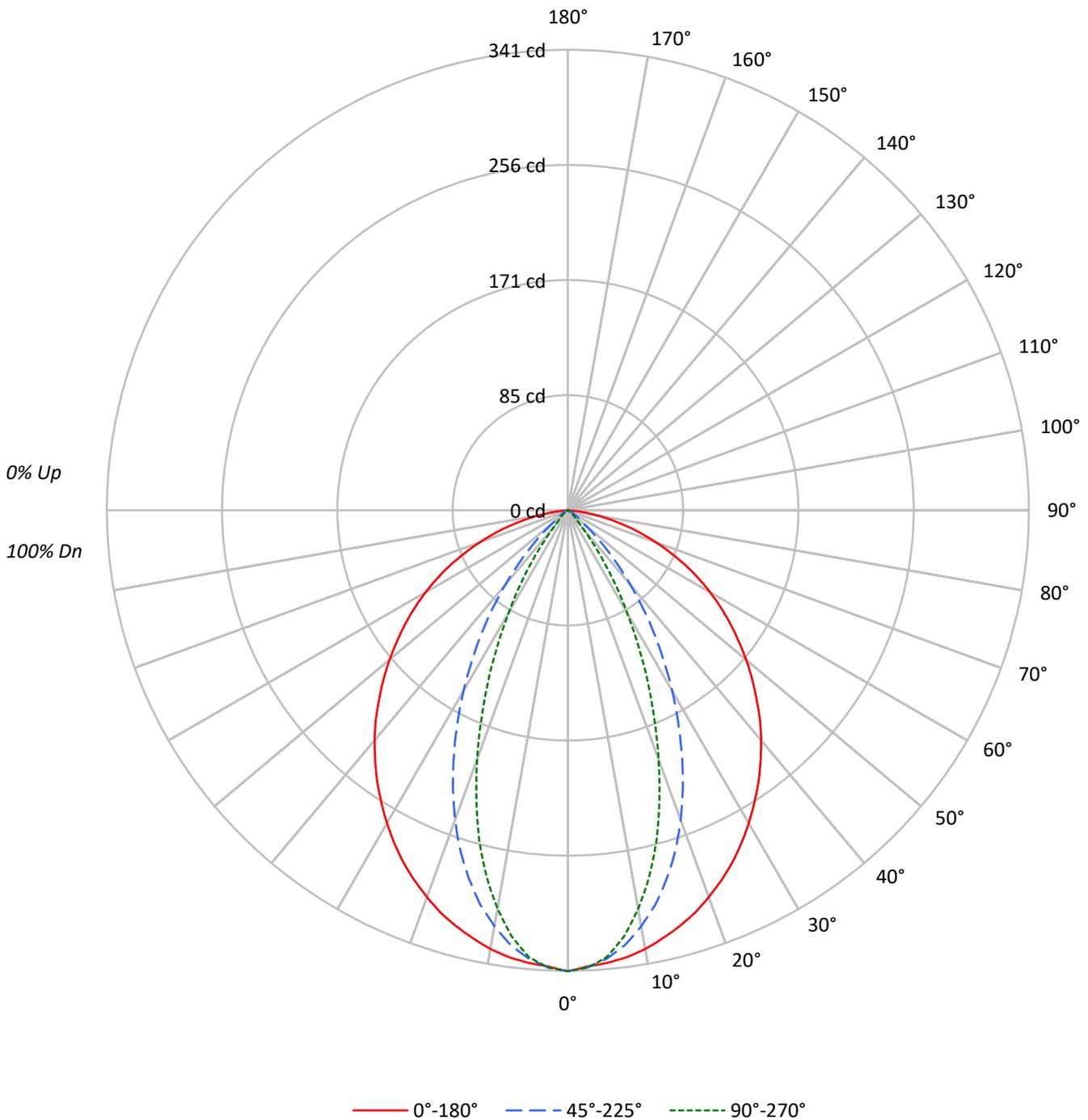
Lumens per Lamp: N/A
Luminaire Lumens: 399.5 lumens
Efficiency: N/A
Efficacy: 34.1 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
Input Voltage (V): 120
Input Current (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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CATALOG NUMBER: S123R3DR-H340D930-X4F0-XX-UDD-FLL-B

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	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°	4115	4115	4115
5°	4070	4031	4018
10°	4039	3827	3667
15°	3980	3526	3159
20°	3911	3129	2516
25°	3829	2651	1856
30°	3725	2148	1217
35°	3616	1637	667
40°	3499	1132	228
45°	3362	658	133
50°	3226	259	79
55°	3088	164	38
60°	2927	101	17
65°	2727	51	11
70°	2446	25	14
75°	2078	19	19
80°	1548	28	0
85°	581	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3362 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.3	7.8
10°-20°	79.4	19.9
20°-30°	94.7	23.7
30°-40°	80.3	20.1
40°-50°	54.6	13.7
50°-60°	33.8	8.5
60°-70°	17.2	4.3
70°-80°	7.0	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°	205.4	51.4
0°-40°	285.7	71.5
0°-60°	374.2	93.7
0°-90°	399.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	399.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	341	341	341	341	341	
5°	336	340	333	331	332	32
15°	319	311	282	260	253	90
25°	288	261	199	154	140	132
35°	246	197	111	60	45	154
45°	197	129	39	10	8	152
55°	147	65	8	3	2	131
65°	96	16	2	0	0	94
75°	45	3	0	0	0	47
85°	4	0	0	0	0	8
90°	0	0	0	0	0	



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CATALOG NUMBER: S123R3DR-H340D930-X4F0-XX-UDD-FLL-B

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	341.3	341.3	341.3	341.3	341.3
2.5°	338.1	342.7	338.8	338.4	338.8
5°	336.3	339.5	333.1	330.6	332.0
7.5°	333.8	335.2	324.6	318.2	318.2
10°	329.9	328.9	312.6	302.0	299.5
12.5°	324.6	320.4	299.1	282.5	277.9
15°	318.9	310.8	282.5	260.2	253.1
17.5°	312.6	300.2	264.4	235.4	225.1
20°	304.8	288.2	243.9	208.5	196.1
22.5°	296.6	275.1	222.3	180.9	167.1
25°	287.8	260.9	199.3	154.0	139.5
27.5°	277.9	246.0	176.6	128.1	112.2
30°	267.6	230.5	154.3	103.4	87.4
32.5°	256.6	214.2	132.0	80.7	65.8
35°	245.7	197.2	111.2	59.8	45.3
37.5°	234.0	180.2	91.0	41.4	28.7
40°	222.3	163.5	71.9	26.2	14.5
42.5°	210.3	146.2	54.5	13.1	9.9
45°	197.2	129.2	38.6	9.6	7.8
47.5°	184.8	112.9	25.5	7.8	6.0
50°	172.0	96.6	13.8	5.7	4.2
52.5°	159.3	81.1	9.9	4.2	2.8
55°	146.9	65.1	7.8	2.8	1.8
57.5°	134.2	51.3	6.0	1.8	1.1
60°	121.4	37.9	4.2	1.1	0.7
62.5°	108.7	26.2	2.8	0.7	0.4
65°	95.6	15.9	1.8	0.4	0.4
67.5°	82.1	11.0	1.1	0.4	0.4
70°	69.4	7.8	0.7	0.4	0.4
72.5°	56.6	5.0	0.4	0.4	0.0
75°	44.6	2.8	0.4	0.4	0.4
77.5°	32.9	1.1	0.4	0.4	0.0
80°	22.3	0.4	0.4	0.4	0.0
82.5°	12.4	0.0	0.4	0.4	0.0
85°	4.2	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	13.96	15.24	14.32	15.55	15.87	0.00	0.00	0.00	0.00	0.00
	3H	15.91	17.04	16.29	17.37	17.74	0.00	0.00	0.00	0.00	0.00
	4H	16.73	17.79	17.14	18.14	18.52	0.00	0.00	0.00	0.00	0.00
	6H	17.29	18.26	17.70	18.63	19.02	0.00	0.00	0.00	0.00	0.00
	8H	17.41	18.33	17.84	18.72	19.13	0.00	0.00	0.00	0.00	0.00
	12H	17.44	18.31	17.87	18.70	19.13	0.00	0.00	0.00	0.00	0.00
4H	2H	13.72	14.78	14.13	15.13	15.51	0.00	0.00	0.00	0.00	0.00
	3H	15.68	16.54	16.09	16.94	17.35	0.00	0.00	0.00	0.00	0.00
	4H	16.49	17.26	16.93	17.68	18.12	0.00	0.00	0.00	0.00	0.00
	6H	17.09	17.76	17.56	18.20	18.67	0.00	0.00	0.00	0.00	0.00
	8H	17.24	17.86	17.72	18.31	18.78	0.00	0.00	0.00	0.00	0.00
	12H	17.29	17.84	17.78	18.32	18.79	0.00	0.00	0.00	0.00	0.00
8H	4H	16.35	16.97	16.82	17.41	17.89	0.00	0.00	0.00	0.00	0.00
	6H	16.93	17.43	17.43	17.93	18.41	0.00	0.00	0.00	0.00	0.00
	8H	17.08	17.53	17.60	18.05	18.54	0.00	0.00	0.00	0.00	0.00
	12H	17.14	17.53	17.65	18.03	18.60	0.00	0.00	0.00	0.00	0.00
12H	4H	16.30	16.84	16.79	17.33	17.80	0.00	0.00	0.00	0.00	0.00
	6H	16.87	17.32	17.39	17.83	18.33	0.00	0.00	0.00	0.00	0.00
	8H	17.04	17.43	17.55	17.93	18.50	0.00	0.00	0.00	0.00	0.00