

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: P1055755

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

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
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-F-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

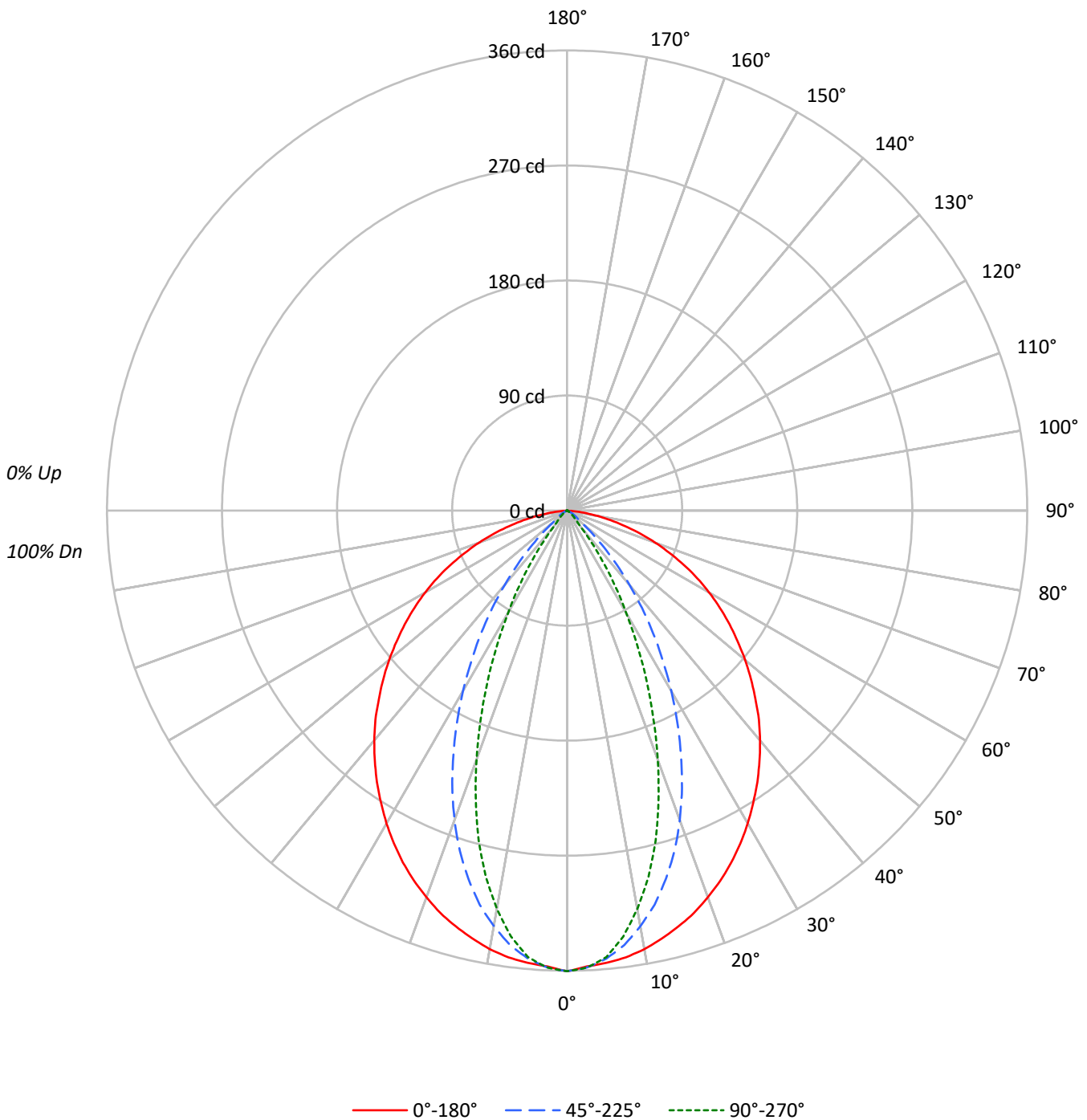
Lumens per Lamp: N/A
Luminaire Lumens: 421.8 lumens
Efficiency: N/A
Efficacy: 36.1 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
Input Voltage (V): 120
Input Current (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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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°	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



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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	



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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



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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	14.15	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