

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: P1055788

Luminaire Tested: S123R3DR-H560D950-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055788
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-H560D950-X4F0-XX-UDD-FLL-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

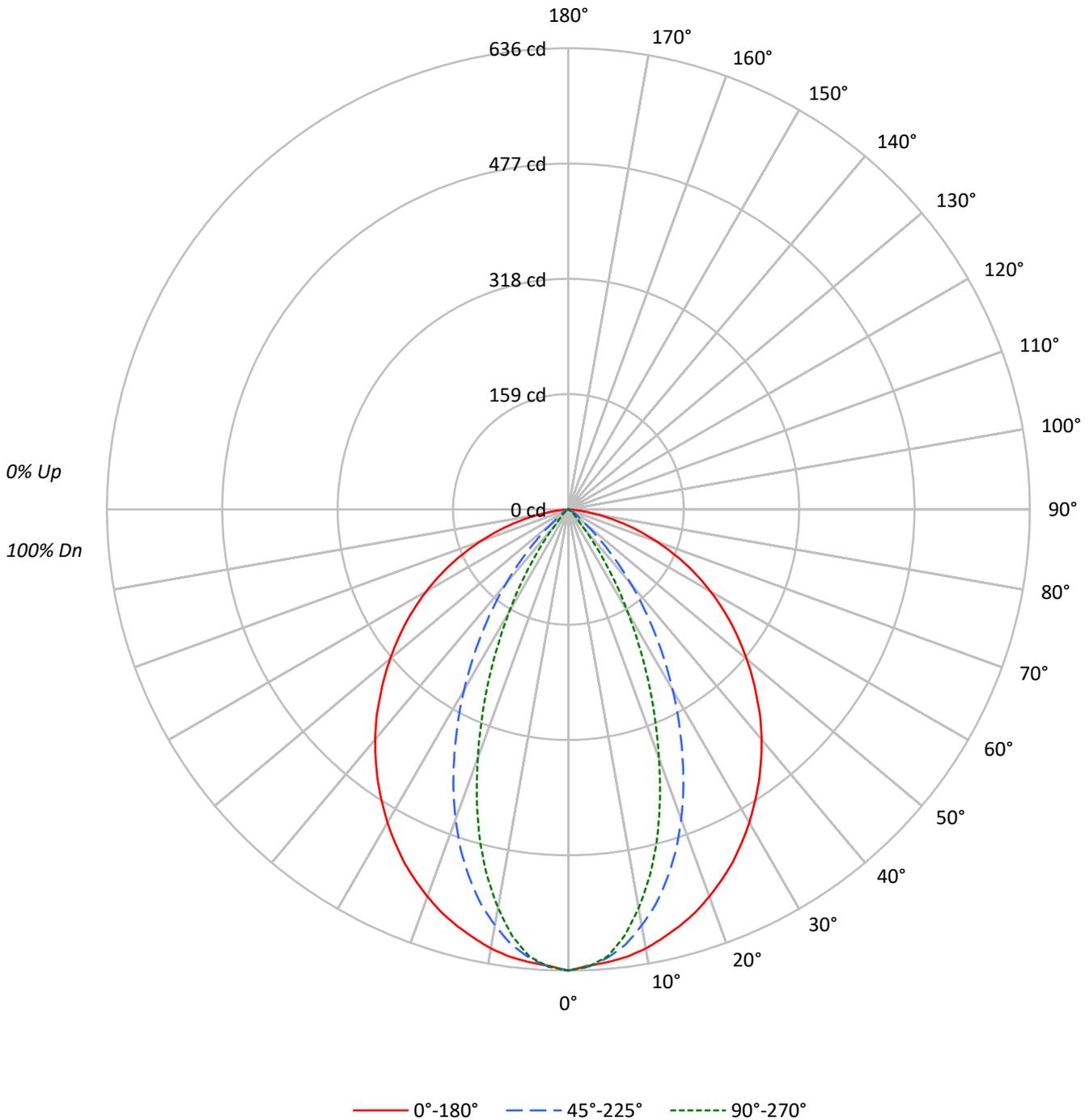
Lumens per Lamp: N/A
Luminaire Lumens: 744.3 lumens
Efficiency: N/A
Efficacy: 43.0 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
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	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°	7667	7667	7667
5°	7585	7512	7488
10°	7527	7131	6832
15°	7418	6570	5886
20°	7288	5831	4688
25°	7134	4941	3457
30°	6943	4004	2268
35°	6738	3048	1242
40°	6520	2107	425
45°	6264	1226	247
50°	6013	482	148
55°	5755	305	69
60°	5457	190	31
65°	5081	94	20
70°	4558	46	25
75°	3871	33	33
80°	2888	49	0
85°	1093	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6264 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.3	7.8
10°-20°	148.0	19.9
20°-30°	176.5	23.7
30°-40°	149.7	20.1
40°-50°	101.7	13.7
50°-60°	63.1	8.5
60°-70°	32.0	4.3
70°-80°	13.0	1.8
80°-90°	2.0	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°	382.8	51.4
0°-40°	532.5	71.5
0°-60°	697.3	93.7
0°-90°	744.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	744.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	636	636	636	636	636	
5°	627	633	621	616	619	59
15°	594	579	526	485	472	168
25°	536	486	371	287	260	247
35°	458	367	207	112	84	286
45°	367	241	72	18	14	284
55°	274	121	14	5	3	245
65°	178	30	3	1	1	176
75°	83	5	1	1	1	88
85°	8	0	0	1	0	14
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	635.9	635.9	635.9	635.9	635.9
2.5°	630.0	638.5	631.3	630.6	631.3
5°	626.7	632.6	620.7	616.1	618.7
7.5°	622.0	624.7	604.9	593.0	593.0
10°	614.8	612.8	582.5	562.7	558.1
12.5°	604.9	597.0	557.4	526.4	517.8
15°	594.3	579.2	526.4	484.8	471.6
17.5°	582.5	559.4	492.8	438.7	419.5
20°	568.0	536.9	454.5	388.5	365.4
22.5°	552.8	512.5	414.3	337.1	311.4
25°	536.3	486.2	371.4	286.9	259.9
27.5°	517.8	458.5	329.2	238.8	209.1
30°	498.7	429.4	287.6	192.6	162.9
32.5°	478.2	399.1	246.0	150.4	122.7
35°	457.8	367.4	207.1	111.5	84.4
37.5°	436.0	335.8	169.5	77.2	53.4
40°	414.3	304.8	133.9	48.8	27.0
42.5°	391.8	272.4	101.6	24.4	18.5
45°	367.4	240.8	71.9	17.8	14.5
47.5°	344.3	210.4	47.5	14.5	11.2
50°	320.6	180.1	25.7	10.6	7.9
52.5°	296.8	151.1	18.5	7.9	5.3
55°	273.8	121.4	14.5	5.3	3.3
57.5°	250.0	95.6	11.2	3.3	2.0
60°	226.3	70.6	7.9	2.0	1.3
62.5°	202.5	48.8	5.3	1.3	0.7
65°	178.1	29.7	3.3	0.7	0.7
67.5°	153.0	20.4	2.0	0.7	0.7
70°	129.3	14.5	1.3	0.7	0.7
72.5°	105.5	9.2	0.7	0.7	0.0
75°	83.1	5.3	0.7	0.7	0.7
77.5°	61.3	2.0	0.7	0.7	0.0
80°	41.6	0.7	0.7	0.7	0.0
82.5°	23.1	0.0	0.7	0.7	0.0
85°	7.9	0.0	0.0	0.7	0.0
87.5°	0.0	0.0	0.0	0.7	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	16.12	17.40	16.49	17.72	18.03	0.00	0.00	0.00	0.00	0.00
	3H	18.07	19.20	18.45	19.53	19.90	0.00	0.00	0.00	0.00	0.00
	4H	18.89	19.95	19.30	20.30	20.69	0.00	0.00	0.00	0.00	0.00
	6H	19.45	20.42	19.86	20.79	21.18	0.00	0.00	0.00	0.00	0.00
	8H	19.58	20.49	20.01	20.88	21.29	0.00	0.00	0.00	0.00	0.00
	12H	19.60	20.48	20.03	20.86	21.29	0.00	0.00	0.00	0.00	0.00
4H	2H	15.89	16.94	16.29	17.29	17.68	0.00	0.00	0.00	0.00	0.00
	3H	17.84	18.70	18.25	19.11	19.51	0.00	0.00	0.00	0.00	0.00
	4H	18.65	19.42	19.09	19.84	20.29	0.00	0.00	0.00	0.00	0.00
	6H	19.25	19.92	19.72	20.36	20.83	0.00	0.00	0.00	0.00	0.00
	8H	19.41	20.02	19.88	20.47	20.94	0.00	0.00	0.00	0.00	0.00
	12H	19.45	20.00	19.94	20.48	20.96	0.00	0.00	0.00	0.00	0.00
8H	4H	18.51	19.13	18.98	19.58	20.05	0.00	0.00	0.00	0.00	0.00
	6H	19.09	19.59	19.60	20.09	20.57	0.00	0.00	0.00	0.00	0.00
	8H	19.24	19.69	19.77	20.21	20.70	0.00	0.00	0.00	0.00	0.00
	12H	19.30	19.70	19.82	20.19	20.76	0.00	0.00	0.00	0.00	0.00
12H	4H	18.46	19.01	18.95	19.49	19.96	0.00	0.00	0.00	0.00	0.00
	6H	19.03	19.48	19.55	20.00	20.49	0.00	0.00	0.00	0.00	0.00
	8H	19.20	19.59	19.71	20.09	20.66	0.00	0.00	0.00	0.00	0.00