

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: P1055776

Luminaire Tested: S123R3DR-H560D927-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055776
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-H560D927-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

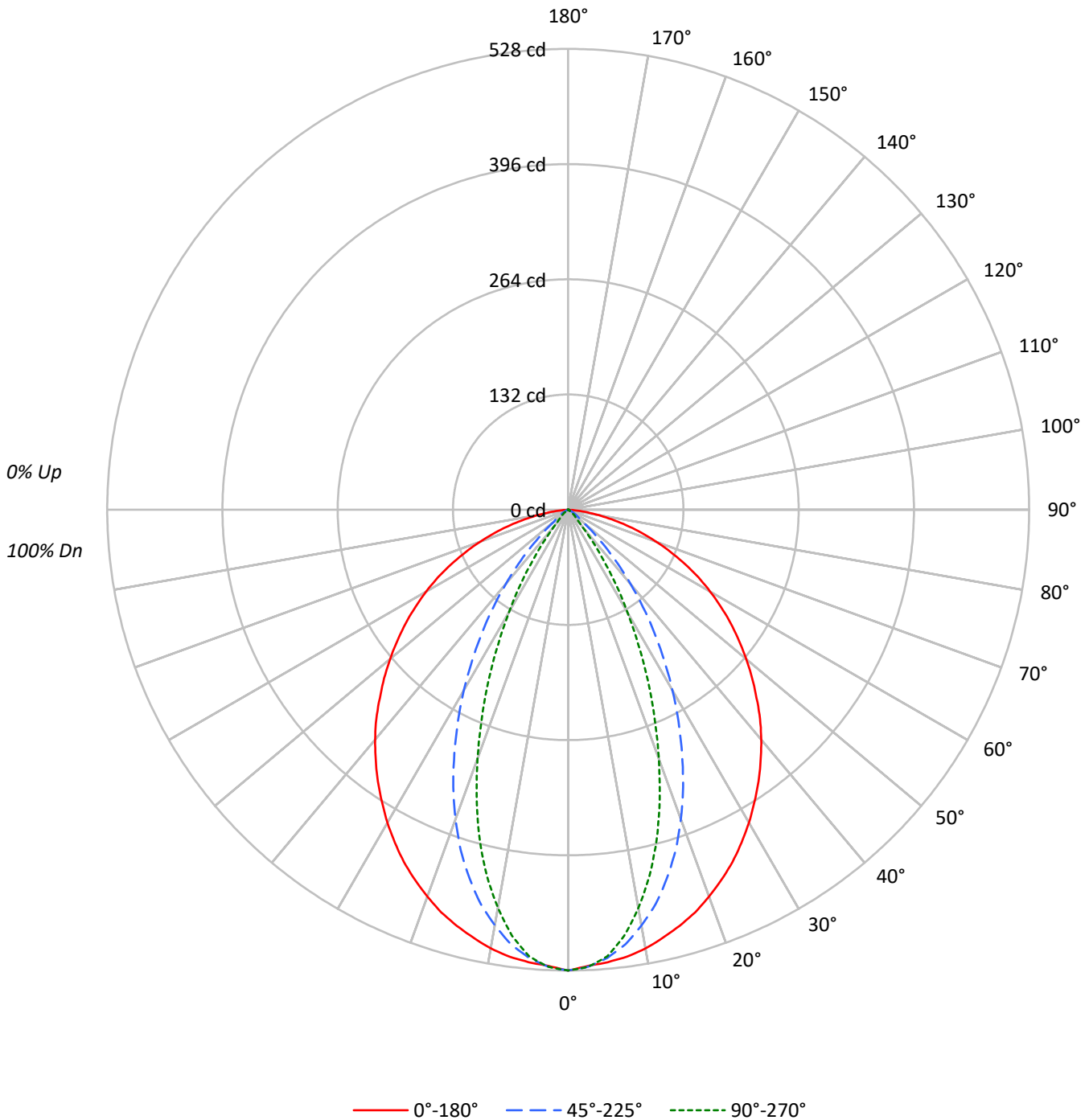
Lumens per Lamp: N/A
Luminaire Lumens: 617.9 lumens
Efficiency: N/A
Efficacy: 35.7 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
Input Voltage (V): 120
Input Current (A_{in}): 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	58	79	69	62	57	67	61	57	66	61	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°	6366	6366	6366
5°	6298	6238	6218
10°	6250	5922	5673
15°	6160	5456	4888
20°	6051	4842	3894
25°	5924	4103	2871
30°	5765	3324	1884
35°	5594	2532	1032
40°	5414	1750	354
45°	5202	1018	206
50°	4993	401	124
55°	4778	254	57
60°	4531	159	27
65°	4219	77	14
70°	3786	39	18
75°	3214	23	23
80°	2395	35	0
85°	913	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5202 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.4	7.8
10°-20°	122.9	19.9
20°-30°	146.6	23.7
30°-40°	124.3	20.1
40°-50°	84.5	13.7
50°-60°	52.4	8.5
60°-70°	26.5	4.3
70°-80°	10.8	1.7
80°-90°	1.6	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°	317.8	51.4
0°-40°	442.1	71.6
0°-60°	579.0	93.7
0°-90°	617.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	617.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	528	528	528	528	528	
5°	520	525	515	512	514	49
15°	494	481	437	403	392	139
25°	445	404	308	238	216	205
35°	380	305	172	93	70	238
45°	305	200	60	15	12	236
55°	227	101	12	4	3	203
65°	148	25	3	0	0	146
75°	69	4	0	0	0	73
85°	7	0	0	0	0	12
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	528.0	528.0	528.0	528.0	528.0
2.5°	523.1	530.2	524.2	523.7	524.2
5°	520.4	525.3	515.4	511.6	513.8
7.5°	516.5	518.7	502.3	492.4	492.4
10°	510.5	508.9	483.7	467.2	463.4
12.5°	502.3	495.7	462.9	437.1	430.0
15°	493.5	480.9	437.1	402.6	391.6
17.5°	483.7	464.5	409.2	364.3	348.4
20°	471.6	445.9	377.4	322.6	303.5
22.5°	459.0	425.6	344.0	279.9	258.5
25°	445.3	403.7	308.4	238.3	215.8
27.5°	430.0	380.7	273.3	198.3	173.6
30°	414.1	356.6	238.8	159.9	135.3
32.5°	397.1	331.4	204.3	124.9	101.9
35°	380.1	305.1	172.0	92.6	70.1
37.5°	362.1	278.8	140.8	64.1	44.4
40°	344.0	253.1	111.2	40.5	22.5
42.5°	325.4	226.2	84.4	20.3	15.3
45°	305.1	199.9	59.7	14.8	12.1
47.5°	285.9	174.7	39.4	12.1	9.3
50°	266.2	149.5	21.4	8.8	6.6
52.5°	246.5	125.4	15.3	6.6	4.4
55°	227.3	100.8	12.1	4.4	2.7
57.5°	207.6	79.4	9.3	2.7	1.6
60°	187.9	58.6	6.6	1.6	1.1
62.5°	168.2	40.5	4.4	1.1	0.5
65°	147.9	24.6	2.7	0.5	0.5
67.5°	127.1	17.0	1.6	0.5	0.5
70°	107.4	12.1	1.1	0.5	0.5
72.5°	87.6	7.7	0.5	0.5	0.0
75°	69.0	4.4	0.5	0.5	0.5
77.5°	50.9	1.6	0.5	0.5	0.0
80°	34.5	0.5	0.5	0.5	0.0
82.5°	19.2	0.0	0.5	0.5	0.0
85°	6.6	0.0	0.0	0.5	0.0
87.5°	0.0	0.0	0.0	0.5	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	15.48	16.76	15.84	17.07	17.39	0.00	0.00	0.00	0.00	0.00
	3H	17.43	18.56	17.81	18.89	19.26	0.00	0.00	0.00	0.00	0.00
	4H	18.25	19.31	18.66	19.66	20.04	0.00	0.00	0.00	0.00	0.00
	6H	18.80	19.77	19.22	20.14	20.54	0.00	0.00	0.00	0.00	0.00
	8H	18.93	19.85	19.36	20.24	20.64	0.00	0.00	0.00	0.00	0.00
	12H	18.96	19.83	19.39	20.21	20.64	0.00	0.00	0.00	0.00	0.00
4H	2H	15.24	16.30	15.64	16.65	17.03	0.00	0.00	0.00	0.00	0.00
	3H	17.20	18.06	17.61	18.46	18.87	0.00	0.00	0.00	0.00	0.00
	4H	18.01	18.78	18.45	19.20	19.64	0.00	0.00	0.00	0.00	0.00
	6H	18.61	19.27	19.07	19.72	20.19	0.00	0.00	0.00	0.00	0.00
	8H	18.76	19.38	19.23	19.83	20.30	0.00	0.00	0.00	0.00	0.00
	12H	18.81	19.35	19.30	19.84	20.31	0.00	0.00	0.00	0.00	0.00
8H	4H	17.87	18.49	18.34	18.93	19.40	0.00	0.00	0.00	0.00	0.00
	6H	18.45	18.95	18.95	19.45	19.93	0.00	0.00	0.00	0.00	0.00
	8H	18.60	19.05	19.12	19.56	20.06	0.00	0.00	0.00	0.00	0.00
	12H	18.66	19.05	19.17	19.55	20.12	0.00	0.00	0.00	0.00	0.00
12H	4H	17.82	18.36	18.31	18.85	19.32	0.00	0.00	0.00	0.00	0.00
	6H	18.38	18.83	18.91	19.35	19.84	0.00	0.00	0.00	0.00	0.00
	8H	18.55	18.95	19.07	19.44	20.02	0.00	0.00	0.00	0.00	0.00