

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: P1055789

Luminaire Tested: S123R3DR-H560D950-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055789
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-H560D950-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

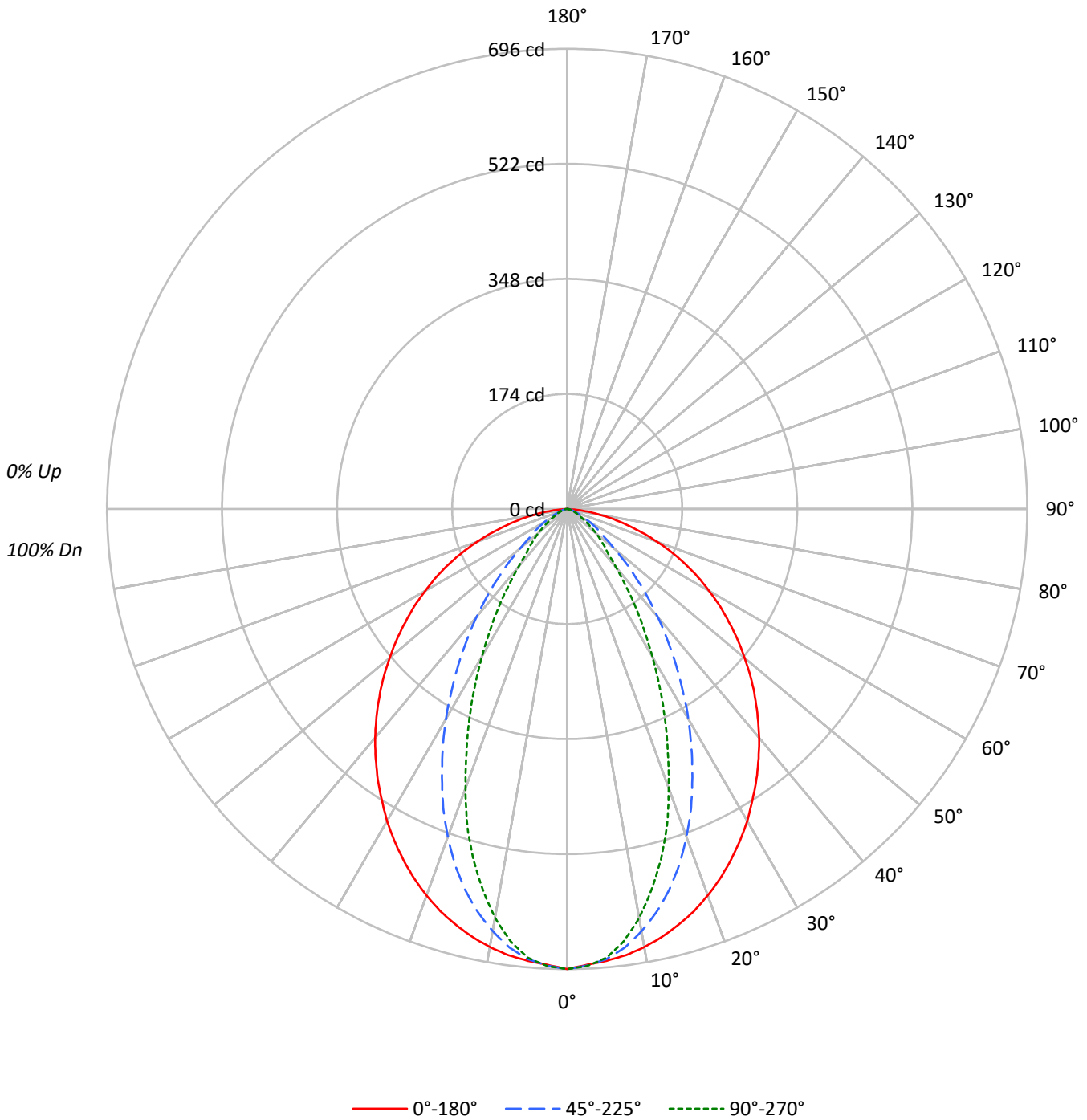
Lumens per Lamp: N/A
Luminaire Lumens: 967.8 lumens
Efficiency: N/A
Efficacy: 55.9 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39
10	62	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8390	8390	8390
5°	8302	8271	8247
10°	8237	7938	7688
15°	8127	7443	6842
20°	7980	6770	5763
25°	7793	5958	4651
30°	7586	5106	3582
35°	7349	4214	2651
40°	7112	3354	1807
45°	6849	2508	1361
50°	6570	1744	1063
55°	6281	1276	776
60°	5980	955	557
65°	5626	639	434
70°	5094	465	349
75°	4393	340	275
80°	3527	278	229
85°	1826	277	180

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6849 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.3	6.6
10°-20°	167.5	17.3
20°-30°	210.4	21.7
30°-40°	196.0	20.2
40°-50°	150.0	15.5
50°-60°	99.7	10.3
60°-70°	53.7	5.6
70°-80°	22.0	2.3
80°-90°	4.2	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°	442.2	45.7
0°-40°	638.1	65.9
0°-60°	887.8	91.7
0°-90°	967.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	967.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	696	696	696	696	696	
5°	686	693	683	681	681	65
15°	651	640	596	561	548	183
25°	586	546	448	373	350	270
35°	499	426	286	202	180	312
45°	402	297	147	86	80	310
55°	299	173	61	42	37	268
65°	197	67	22	16	15	195
75°	94	16	7	7	6	101
85°	13	2	2	2	1	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	695.9	695.9	695.9	695.9	695.9
2.5°	690.0	698.6	691.3	692.0	692.0
5°	686.0	693.3	683.4	680.8	681.4
7.5°	680.8	685.4	668.9	660.3	659.0
10°	672.8	674.2	648.4	633.3	628.0
12.5°	662.9	658.3	624.7	599.6	589.7
15°	651.1	640.5	596.3	561.4	548.2
17.5°	637.9	620.1	564.0	518.5	502.6
20°	622.0	597.0	527.7	471.0	449.2
22.5°	604.9	572.6	489.5	422.2	397.8
25°	585.8	546.2	447.9	373.4	349.6
27.5°	566.0	517.8	407.0	327.2	302.8
30°	544.9	488.8	366.8	282.3	257.3
32.5°	521.8	457.1	325.2	240.8	215.7
35°	499.3	425.5	286.3	202.5	180.1
37.5°	475.6	393.8	248.7	168.9	143.8
40°	451.9	361.5	213.1	135.9	114.8
42.5°	426.8	329.2	179.4	108.2	91.7
45°	401.7	296.8	147.1	86.4	79.8
47.5°	376.7	264.5	118.7	74.5	67.9
50°	350.3	233.5	93.0	63.3	56.7
52.5°	325.2	202.5	72.6	52.1	46.2
55°	298.8	172.8	60.7	42.2	36.9
57.5°	274.4	142.5	50.1	33.0	29.0
60°	248.0	115.4	39.6	25.7	23.1
62.5°	223.0	90.4	30.3	20.4	18.5
65°	197.2	66.6	22.4	16.5	15.2
67.5°	171.5	48.2	17.2	13.2	12.5
70°	144.5	36.3	13.2	10.6	9.9
72.5°	118.7	25.7	9.9	8.6	7.9
75°	94.3	15.8	7.3	6.6	5.9
77.5°	72.6	9.2	5.3	5.3	4.6
80°	50.8	5.3	4.0	4.0	3.3
82.5°	31.0	3.3	2.6	2.6	2.6
85°	13.2	2.0	2.0	2.0	1.3
87.5°	2.0	0.7	0.7	0.7	0.7
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	17.20	18.56	17.57	18.87	19.19	5.78	7.14	6.14	7.45	7.76
	3H	18.96	20.16	19.34	20.49	20.86	6.44	7.65	6.82	7.98	8.34
	4H	19.66	20.78	20.06	21.13	21.51	6.64	7.76	7.04	8.11	8.49
	6H	20.17	21.20	20.58	21.57	21.97	6.76	7.79	7.17	8.16	8.55
	8H	20.31	21.29	20.74	21.68	22.08	6.79	7.77	7.22	8.16	8.57
	12H	20.36	21.30	20.79	21.68	22.11	6.80	7.74	7.23	8.12	8.55
4H	2H	17.01	18.14	17.41	18.49	18.87	6.33	7.46	6.73	7.81	8.19
	3H	18.80	19.73	19.22	20.13	20.53	7.13	8.05	7.55	8.46	8.86
	4H	19.50	20.32	19.93	20.74	21.18	7.39	8.21	7.83	8.63	9.07
	6H	20.07	20.78	20.53	21.23	21.69	7.59	8.30	8.05	8.75	9.21
	8H	20.24	20.91	20.71	21.35	21.82	7.64	8.30	8.11	8.75	9.22
	12H	20.33	20.92	20.82	21.40	21.87	7.67	8.26	8.16	8.74	9.21
8H	4H	19.37	20.04	19.84	20.48	20.96	7.71	8.37	8.17	8.81	9.29
	6H	19.93	20.47	20.43	20.97	21.45	7.96	8.50	8.46	8.99	9.47
	8H	20.11	20.59	20.63	21.11	21.60	8.04	8.53	8.56	9.04	9.53
	12H	20.21	20.64	20.72	21.13	21.70	8.12	8.55	8.63	9.04	9.61
12H	4H	19.33	19.92	19.82	20.40	20.87	7.75	8.34	8.24	8.82	9.29
	6H	19.87	20.36	20.39	20.87	21.36	8.00	8.49	8.52	9.00	9.49
	8H	20.07	20.49	20.58	20.99	21.56	8.12	8.55	8.64	9.05	9.62