

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: P1055646

Luminaire Tested: S123R3DR-S560D930-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055646
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-S560D930-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

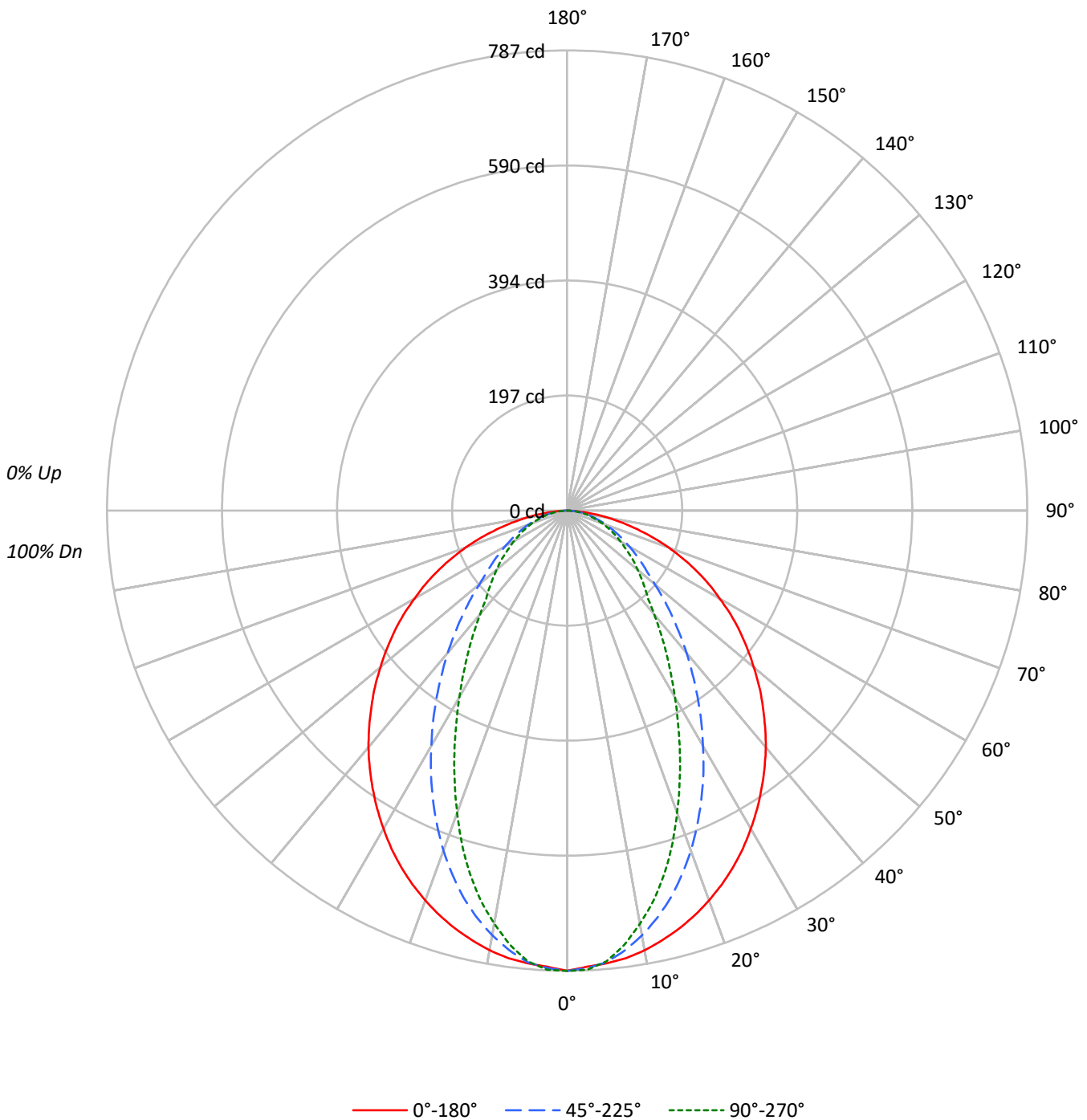
Lumens per Lamp: N/A
Luminaire Lumens: 1380.6 lumens
Efficiency: N/A
Efficacy: 72.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 19.1
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

TEST NUMBER: P1055646

CATALOG NUMBER: S123R3DR-S560D930-X4F0-XX-UDD-F-W

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	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												100																
1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86												86																
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74												74																
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65												65																
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57												57																
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50												50																
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45												45																
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40												40																
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37												37																
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34												34																
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31												31																

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9491	9491	9491
5°	9406	9384	9362
10°	9348	9031	8786
15°	9238	8554	8024
20°	9103	7939	7055
25°	8945	7229	6070
30°	8746	6467	5131
35°	8535	5719	4333
40°	8321	4994	3642
45°	8072	4307	3212
50°	7818	3667	2949
55°	7586	3266	2722
60°	7268	2954	2541
65°	6969	2704	2385
70°	6497	2492	2242
75°	5813	2306	2110
80°	4985	2125	1965
85°	3500	1950	1867

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8072 cd/sqm

TEST NUMBER: P1055646

CATALOG NUMBER: S123R3DR-S560D930-X4F0-XX-UDD-F-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.0	5.3
10°-20°	193.1	14.0
20°-30°	254.3	18.4
30°-40°	258.1	18.7
40°-50°	224.4	16.3
50°-60°	175.8	12.7
60°-70°	119.4	8.7
70°-80°	64.7	4.7
80°-90°	17.8	1.3
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°	520.3	37.7
0°-40°	778.5	56.4
0°-60°	1178.6	85.4
0°-90°	1380.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1380.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	787	787	787	787	787	
5°	777	787	775	768	774	74
15°	740	730	685	652	643	209
25°	672	632	543	476	456	310
35°	580	511	389	314	294	363
45°	473	380	253	195	188	365
55°	361	251	155	132	130	322
65°	244	135	95	85	84	241
75°	125	62	50	46	45	133
85°	25	15	14	13	14	32
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	787.2	787.2	787.2	787.2	787.2
2.5°	780.7	790.7	783.1	783.6	786.0
5°	777.2	786.6	775.4	768.3	773.6
7.5°	771.9	778.9	758.3	747.1	748.9
10°	763.6	766.0	737.7	720.1	717.7
12.5°	752.4	748.3	713.0	687.1	683.0
15°	740.1	729.5	685.3	651.8	642.9
17.5°	725.9	708.3	652.9	611.7	598.2
20°	709.5	684.7	618.8	566.4	549.9
22.5°	691.8	660.0	581.7	519.9	502.8
25°	672.4	631.7	543.4	475.7	456.3
27.5°	651.2	603.5	504.6	432.2	410.4
30°	628.2	574.0	464.5	389.8	368.6
32.5°	604.7	542.8	426.3	350.3	329.7
35°	579.9	511.0	388.6	314.4	294.4
37.5°	554.6	478.7	352.1	280.3	261.4
40°	528.7	445.7	317.3	248.5	231.4
42.5°	501.0	412.7	283.8	218.4	205.5
45°	473.4	379.8	252.6	194.9	188.4
47.5°	445.7	346.2	223.1	178.4	172.5
50°	416.8	313.8	195.5	163.1	157.2
52.5°	388.6	282.0	172.5	148.4	144.2
55°	360.9	250.8	155.4	132.5	129.5
57.5°	332.1	220.2	138.4	120.1	116.6
60°	301.4	190.8	122.5	107.2	105.4
62.5°	273.8	163.1	108.3	96.0	94.2
65°	244.3	135.4	94.8	84.8	83.6
67.5°	214.3	112.5	82.4	74.2	73.6
70°	184.3	94.8	70.7	64.2	63.6
72.5°	154.8	78.3	59.5	55.3	54.2
75°	124.8	62.4	49.5	45.9	45.3
77.5°	97.7	48.3	39.4	37.1	36.5
80°	71.8	35.9	30.6	28.8	28.3
82.5°	47.1	24.7	21.8	20.6	20.6
85°	25.3	15.3	14.1	13.0	13.5
87.5°	8.8	6.5	6.5	5.9	6.5
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	18.38	19.87	18.74	20.18	20.50	13.53	15.02	13.89	15.33	15.65
	3H	20.26	21.60	20.64	21.93	22.29	15.15	16.49	15.53	16.82	17.18
	4H	21.02	22.28	21.42	22.62	23.00	15.79	17.05	16.19	17.39	17.77
	6H	21.58	22.74	22.00	23.11	23.50	16.28	17.44	16.69	17.81	18.20
	8H	21.76	22.86	22.18	23.25	23.65	16.45	17.55	16.88	17.94	18.35
	12H	21.85	22.91	22.28	23.29	23.72	16.57	17.63	17.00	18.01	18.44
4H	2H	18.42	19.68	18.82	20.03	20.41	14.25	15.51	14.65	15.86	16.24
	3H	20.44	21.48	20.85	21.88	22.29	16.08	17.12	16.49	17.52	17.92
	4H	21.26	22.20	21.69	22.61	23.05	16.82	17.76	17.25	18.18	18.62
	6H	21.94	22.76	22.40	23.20	23.66	17.43	18.25	17.89	18.69	19.15
	8H	22.17	22.93	22.63	23.38	23.85	17.64	18.41	18.11	18.85	19.32
	12H	22.32	23.00	22.80	23.48	23.95	17.81	18.49	18.29	18.97	19.44
8H	4H	21.28	22.05	21.75	22.49	22.96	17.20	17.97	17.67	18.41	18.88
	6H	22.01	22.64	22.51	23.13	23.61	17.93	18.56	18.43	19.05	19.53
	8H	22.28	22.84	22.79	23.36	23.84	18.22	18.79	18.73	19.30	19.78
	12H	22.49	22.99	23.00	23.48	24.05	18.46	18.96	18.97	19.46	20.02
12H	4H	21.27	21.95	21.75	22.43	22.90	17.26	17.94	17.74	18.42	18.89
	6H	21.99	22.56	22.51	23.07	23.56	18.01	18.58	18.53	19.09	19.58
	8H	22.30	22.80	22.81	23.29	23.86	18.36	18.86	18.87	19.35	19.92