

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: P1055651

Luminaire Tested: S123R3DR-S560D940-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055651
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-S560D940-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

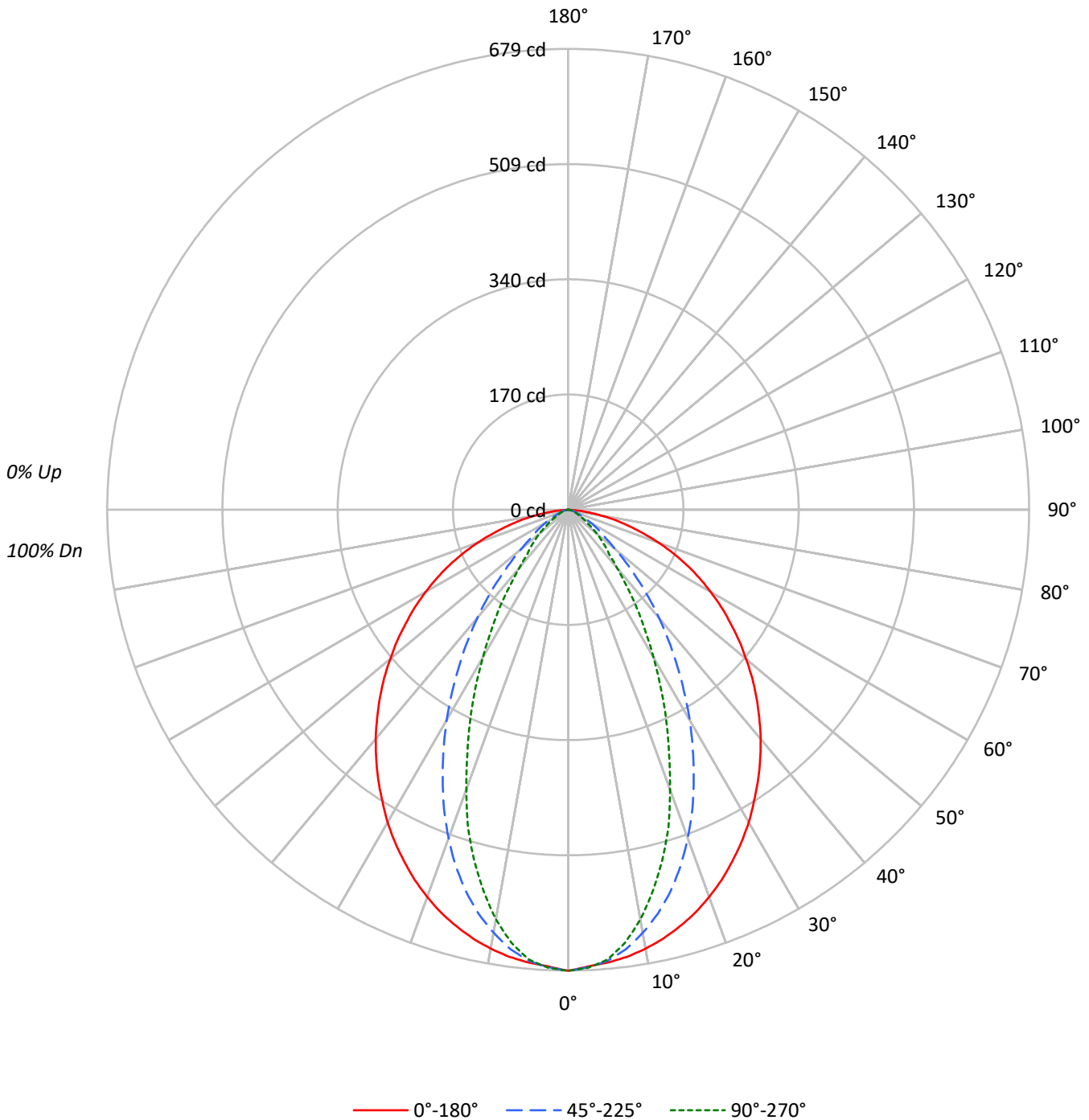
Lumens per Lamp: N/A
Luminaire Lumens: 944.8 lumens
Efficiency: N/A
Efficacy: 49.5 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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

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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°	8191	8191	8191
5°	8105	8074	8051
10°	8041	7749	7505
15°	7933	7266	6679
20°	7790	6610	5626
25°	7607	5816	4540
30°	7405	4984	3496
35°	7175	4114	2587
40°	6942	3274	1763
45°	6687	2448	1328
50°	6413	1703	1039
55°	6131	1244	759
60°	5838	931	543
65°	5492	625	422
70°	4970	455	342
75°	4290	331	270
80°	3444	271	222
85°	1784	263	180

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6687 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.8	6.6
10°-20°	163.5	17.3
20°-30°	205.4	21.7
30°-40°	191.3	20.2
40°-50°	146.4	15.5
50°-60°	97.3	10.3
60°-70°	52.5	5.6
70°-80°	21.5	2.3
80°-90°	4.1	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°	431.7	45.7
0°-40°	622.9	65.9
0°-60°	866.7	91.7
0°-90°	944.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	944.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	679	679	679	679	679	
5°	670	677	667	664	665	64
15°	636	625	582	548	535	179
25°	572	533	437	364	341	263
35°	488	415	280	198	176	305
45°	392	290	144	84	78	303
55°	292	169	59	41	36	261
65°	192	65	22	16	15	190
75°	92	16	7	6	6	99
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°	679.4	679.4	679.4	679.4	679.4
2.5°	673.6	681.9	674.9	675.5	675.5
5°	669.7	676.8	667.1	664.5	665.2
7.5°	664.5	669.1	653.0	644.6	643.3
10°	656.8	658.1	633.0	618.2	613.0
12.5°	647.2	642.7	609.8	585.3	575.7
15°	635.6	625.3	582.1	548.0	535.1
17.5°	622.7	605.3	550.6	506.1	490.7
20°	607.2	582.8	515.2	459.8	438.5
22.5°	590.5	558.9	477.8	412.1	388.3
25°	571.8	533.2	437.2	364.5	341.3
27.5°	552.5	505.5	397.3	319.4	295.6
30°	531.9	477.2	358.0	275.6	251.1
32.5°	509.4	446.3	317.5	235.0	210.6
35°	487.5	415.3	279.5	197.7	175.8
37.5°	464.3	384.4	242.8	164.8	140.4
40°	441.1	352.9	208.0	132.7	112.0
42.5°	416.6	321.3	175.2	105.6	89.5
45°	392.2	289.8	143.6	84.4	77.9
47.5°	367.7	258.2	115.9	72.8	66.3
50°	341.9	228.0	90.8	61.8	55.4
52.5°	317.5	197.7	70.8	50.9	45.1
55°	291.7	168.7	59.2	41.2	36.1
57.5°	267.9	139.1	48.9	32.2	28.3
60°	242.1	112.7	38.6	25.1	22.5
62.5°	217.7	88.2	29.6	20.0	18.0
65°	192.5	65.0	21.9	16.1	14.8
67.5°	167.4	47.0	16.7	12.9	12.2
70°	141.0	35.4	12.9	10.3	9.7
72.5°	115.9	25.1	9.7	8.4	7.7
75°	92.1	15.5	7.1	6.4	5.8
77.5°	70.8	9.0	5.2	5.2	4.5
80°	49.6	5.2	3.9	3.9	3.2
82.5°	30.3	3.2	2.6	2.6	2.6
85°	12.9	1.9	1.9	1.9	1.3
87.5°	1.9	0.6	0.6	0.6	0.6
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	17.12	18.48	17.48	18.79	19.10	5.69	7.05	6.06	7.36	7.68
	3H	18.87	20.08	19.25	20.41	20.77	6.36	7.56	6.73	7.89	8.25
	4H	19.57	20.70	19.97	21.05	21.43	6.55	7.68	6.95	8.03	8.41
	6H	20.09	21.12	20.50	21.49	21.88	6.67	7.71	7.09	8.08	8.47
	8H	20.23	21.21	20.66	21.60	22.00	6.71	7.69	7.14	8.08	8.48
	12H	20.28	21.21	20.71	21.60	22.03	6.72	7.66	7.15	8.04	8.47
4H	2H	16.93	18.05	17.33	18.40	18.78	6.25	7.37	6.65	7.72	8.11
	3H	18.72	19.64	19.13	20.04	20.45	7.05	7.97	7.46	8.37	8.78
	4H	19.41	20.24	19.85	20.66	21.10	7.31	8.13	7.74	8.55	8.99
	6H	19.99	20.70	20.45	21.14	21.61	7.50	8.22	7.97	8.66	9.13
	8H	20.16	20.82	20.63	21.27	21.74	7.56	8.22	8.03	8.67	9.14
	12H	20.25	20.83	20.73	21.32	21.79	7.59	8.18	8.08	8.66	9.13
8H	4H	19.29	19.95	19.76	20.40	20.87	7.62	8.28	8.09	8.73	9.20
	6H	19.85	20.39	20.35	20.88	21.36	7.87	8.41	8.37	8.91	9.39
	8H	20.02	20.51	20.54	21.02	21.51	7.96	8.45	8.48	8.96	9.45
	12H	20.13	20.56	20.64	21.05	21.62	8.04	8.47	8.56	8.96	9.54
12H	4H	19.25	19.84	19.73	20.32	20.79	7.67	8.25	8.15	8.73	9.21
	6H	19.79	20.27	20.31	20.79	21.28	7.92	8.40	8.44	8.92	9.41
	8H	19.98	20.41	20.50	20.91	21.48	8.05	8.47	8.56	8.97	9.54