

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: P1055770

Luminaire Tested: S123R3DR-H560D840-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055770
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-H560D840-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

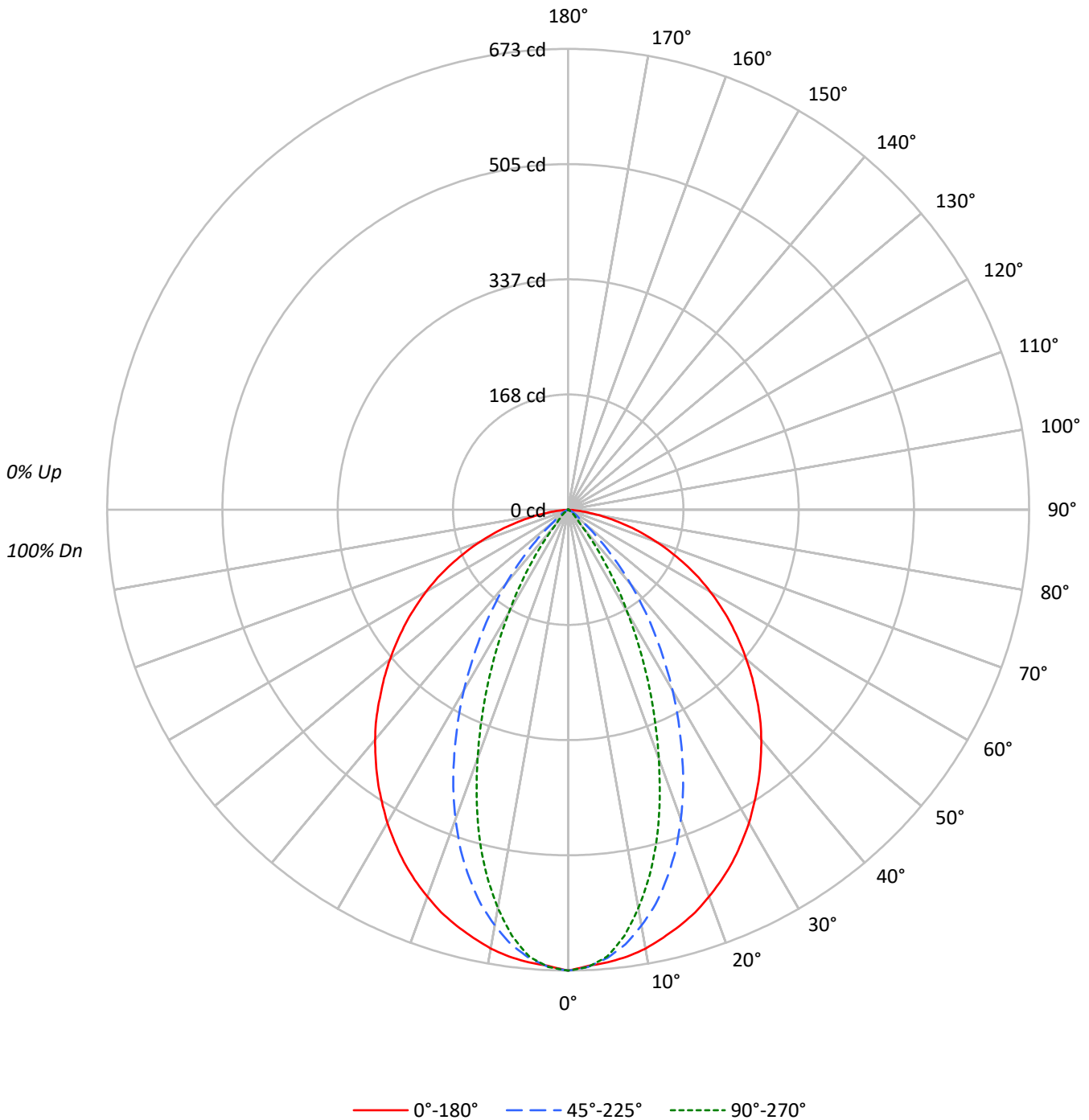
Lumens per Lamp: N/A
Luminaire Lumens: 787.8 lumens
Efficiency: N/A
Efficacy: 45.5 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P1055770

CATALOG NUMBER: S123R3DR-H560D840-X4F0-XX-UDD-F-B

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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61
6	81	70	63	57	79	69	62	57	67	61	57	66	61	56	64	60	56
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8115	8115	8115
5°	8029	7953	7927
10°	7967	7549	7232
15°	7852	6955	6232
20°	7713	6173	4963
25°	7552	5229	3660
30°	7349	4238	2401
35°	7132	3228	1316
40°	6901	2230	450
45°	6631	1298	263
50°	6366	510	158
55°	6092	324	74
60°	5775	203	34
65°	5378	100	20
70°	4826	49	25
75°	4099	33	33
80°	3055	49	0
85°	1162	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6631 cd/sqm



TEST NUMBER: P1055770

CATALOG NUMBER: S123R3DR-H560D840-X4F0-XX-UDD-F-B

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.7	7.8
10°-20°	156.6	19.9
20°-30°	186.8	23.7
30°-40°	158.5	20.1
40°-50°	107.7	13.7
50°-60°	66.8	8.5
60°-70°	33.8	4.3
70°-80°	13.8	1.8
80°-90°	2.1	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°	405.2	51.4
0°-40°	563.6	71.5
0°-60°	738.1	93.7
0°-90°	787.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	787.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	673	673	673	673	673	
5°	663	670	657	652	655	63
15°	629	613	557	513	499	177
25°	568	515	393	304	275	261
35°	485	389	219	118	89	303
45°	389	255	76	19	15	300
55°	290	128	15	6	4	259
65°	188	31	4	1	1	186
75°	88	6	1	1	1	94
85°	8	0	0	1	0	15
90°	0	0	0	0	0	



TEST NUMBER: P1055770

CATALOG NUMBER: S123R3DR-H560D840-X4F0-XX-UDD-F-B

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	673.1	673.1	673.1	673.1	673.1
2.5°	666.8	675.9	668.2	667.5	668.2
5°	663.4	669.6	657.1	652.2	655.0
7.5°	658.5	661.3	640.3	627.7	627.7
10°	650.8	648.7	616.6	595.6	590.7
12.5°	640.3	631.9	590.0	557.2	548.1
15°	629.1	613.1	557.2	513.2	499.3
17.5°	616.6	592.1	521.6	464.3	444.1
20°	601.2	568.4	481.1	411.3	386.8
22.5°	585.2	542.6	438.5	356.8	329.6
25°	567.7	514.6	393.1	303.7	275.1
27.5°	548.1	485.3	348.4	252.8	221.4
30°	527.9	454.6	304.4	203.9	172.5
32.5°	506.2	422.5	260.5	159.2	129.9
35°	484.6	388.9	219.3	118.0	89.4
37.5°	461.6	355.4	179.5	81.7	56.6
40°	438.5	322.6	141.7	51.7	28.6
42.5°	414.8	288.4	107.5	25.8	19.6
45°	388.9	254.9	76.1	18.9	15.4
47.5°	364.5	222.7	50.3	15.4	11.9
50°	339.4	190.6	27.2	11.2	8.4
52.5°	314.2	159.9	19.6	8.4	5.6
55°	289.8	128.5	15.4	5.6	3.5
57.5°	264.6	101.2	11.9	3.5	2.1
60°	239.5	74.7	8.4	2.1	1.4
62.5°	214.4	51.7	5.6	1.4	0.7
65°	188.5	31.4	3.5	0.7	0.7
67.5°	162.0	21.6	2.1	0.7	0.7
70°	136.9	15.4	1.4	0.7	0.7
72.5°	111.7	9.8	0.7	0.7	0.0
75°	88.0	5.6	0.7	0.7	0.7
77.5°	64.9	2.1	0.7	0.7	0.0
80°	44.0	0.7	0.7	0.7	0.0
82.5°	24.4	0.0	0.7	0.7	0.0
85°	8.4	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	16.32	17.60	16.68	17.91	18.23	0.00	0.00	0.00	0.00	0.00
	3H	18.27	19.40	18.65	19.73	20.10	0.00	0.00	0.00	0.00	0.00
	4H	19.09	20.15	19.50	20.50	20.88	0.00	0.00	0.00	0.00	0.00
	6H	19.65	20.62	20.06	20.99	21.38	0.00	0.00	0.00	0.00	0.00
	8H	19.77	20.69	20.20	21.08	21.49	0.00	0.00	0.00	0.00	0.00
	12H	19.80	20.67	20.23	21.06	21.49	0.00	0.00	0.00	0.00	0.00
4H	2H	16.08	17.14	16.49	17.49	17.87	0.00	0.00	0.00	0.00	0.00
	3H	18.04	18.90	18.45	19.30	19.71	0.00	0.00	0.00	0.00	0.00
	4H	18.85	19.62	19.29	20.04	20.49	0.00	0.00	0.00	0.00	0.00
	6H	19.45	20.12	19.92	20.56	21.03	0.00	0.00	0.00	0.00	0.00
	8H	19.60	20.22	20.07	20.67	21.14	0.00	0.00	0.00	0.00	0.00
	12H	19.65	20.20	20.14	20.68	21.15	0.00	0.00	0.00	0.00	0.00
8H	4H	18.71	19.33	19.18	19.77	20.25	0.00	0.00	0.00	0.00	0.00
	6H	19.29	19.79	19.79	20.29	20.77	0.00	0.00	0.00	0.00	0.00
	8H	19.44	19.89	19.96	20.41	20.90	0.00	0.00	0.00	0.00	0.00
	12H	19.50	19.89	20.01	20.39	20.96	0.00	0.00	0.00	0.00	0.00
12H	4H	18.66	19.21	19.15	19.69	20.16	0.00	0.00	0.00	0.00	0.00
	6H	19.23	19.68	19.75	20.19	20.69	0.00	0.00	0.00	0.00	0.00
	8H	19.40	19.79	19.91	20.29	20.86	0.00	0.00	0.00	0.00	0.00