

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055785

Luminaire Tested: S123R3DR-H560D940-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055785
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-H560D940-X4F0-XX-UDD-FLL-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

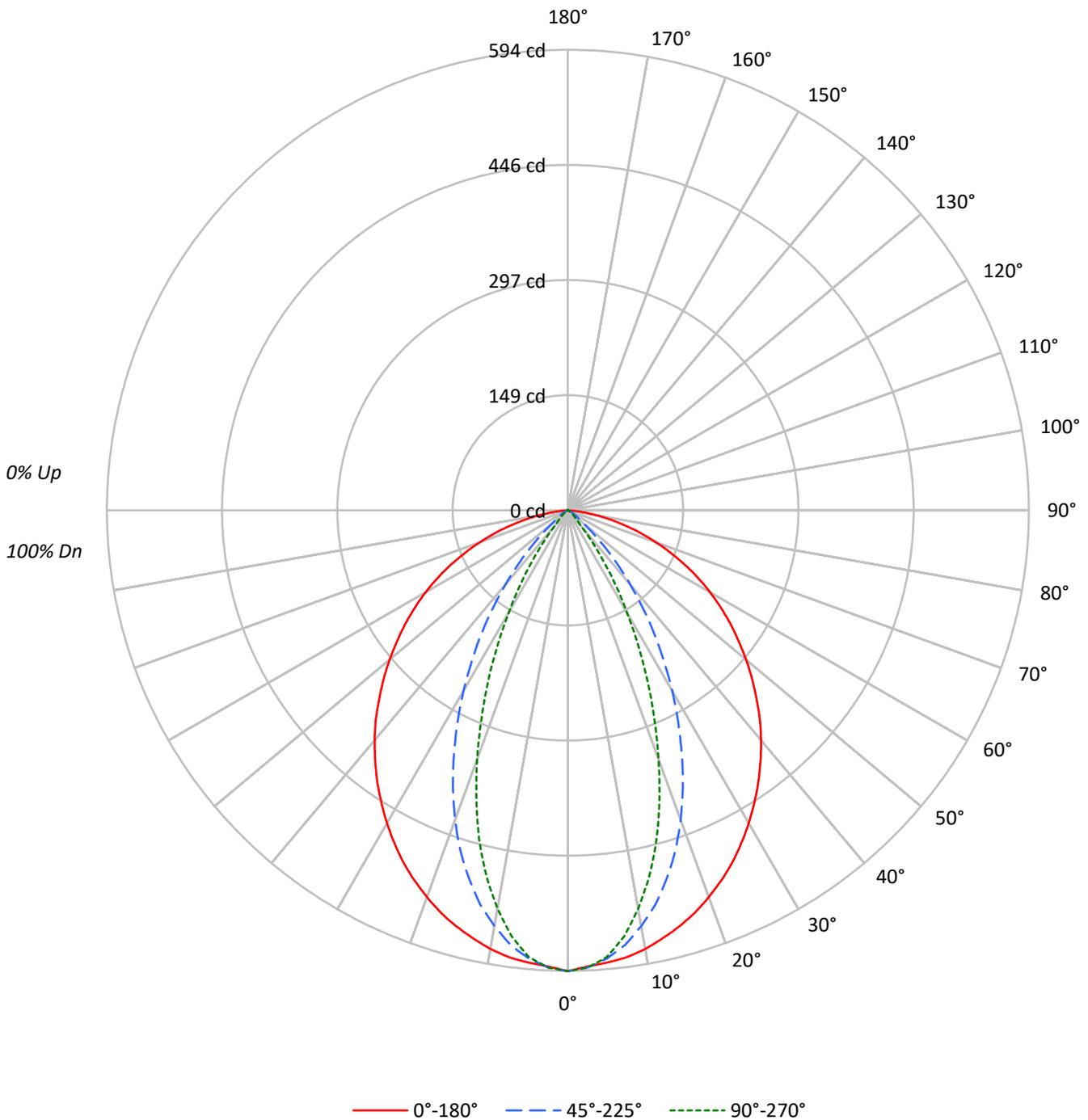
Lumens per Lamp: N/A
Luminaire Lumens: 695.6 lumens
Efficiency: N/A
Efficacy: 40.2 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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
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	58	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°	7166	7166	7166
5°	7088	7022	6999
10°	7034	6665	6386
15°	6934	6141	5502
20°	6812	5450	4383
25°	6669	4617	3231
30°	6489	3742	2120
35°	6298	2849	1161
40°	6094	1970	398
45°	5855	1146	232
50°	5621	450	139
55°	5379	286	65
60°	5100	178	29
65°	4750	88	17
70°	4258	42	21
75°	3619	28	28
80°	2694	42	0
85°	1024	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5855 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.5	7.8
10°-20°	138.3	19.9
20°-30°	165.0	23.7
30°-40°	139.9	20.1
40°-50°	95.1	13.7
50°-60°	58.9	8.5
60°-70°	29.8	4.3
70°-80°	12.2	1.7
80°-90°	1.9	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°	357.8	51.4
0°-40°	497.7	71.5
0°-60°	651.7	93.7
0°-90°	695.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	695.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	594	594	594	594	594	
5°	586	591	580	576	578	56
15°	556	541	492	453	441	157
25°	501	454	347	268	243	231
35°	428	343	194	104	79	267
45°	343	225	67	17	14	265
55°	256	113	14	5	3	229
65°	166	28	3	1	1	164
75°	78	5	1	1	1	83
85°	7	0	0	1	0	13
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	594.4	594.4	594.4	594.4	594.4
2.5°	588.8	596.8	590.1	589.4	590.1
5°	585.7	591.3	580.2	575.9	578.3
7.5°	581.4	583.9	565.4	554.3	554.3
10°	574.6	572.8	544.4	525.9	521.6
12.5°	565.4	558.0	521.0	492.0	484.0
15°	555.5	541.4	492.0	453.2	440.8
17.5°	544.4	522.9	460.6	410.0	392.1
20°	530.9	501.9	424.8	363.2	341.6
22.5°	516.7	479.1	387.2	315.1	291.0
25°	501.3	454.4	347.1	268.2	242.9
27.5°	484.0	428.5	307.7	223.2	195.5
30°	466.1	401.4	268.8	180.0	152.3
32.5°	447.0	373.0	230.0	140.6	114.7
35°	427.9	343.4	193.6	104.2	78.9
37.5°	407.6	313.8	158.5	72.1	49.9
40°	387.2	284.9	125.2	45.6	25.3
42.5°	366.2	254.6	95.0	22.8	17.3
45°	343.4	225.0	67.2	16.6	13.6
47.5°	321.9	196.7	44.4	13.6	10.5
50°	299.7	168.3	24.0	9.9	7.4
52.5°	277.5	141.2	17.3	7.4	4.9
55°	255.9	113.4	13.6	4.9	3.1
57.5°	233.7	89.4	10.5	3.1	1.8
60°	211.5	66.0	7.4	1.8	1.2
62.5°	189.3	45.6	4.9	1.2	0.6
65°	166.5	27.7	3.1	0.6	0.6
67.5°	143.0	19.1	1.8	0.6	0.6
70°	120.8	13.6	1.2	0.6	0.6
72.5°	98.7	8.6	0.6	0.6	0.0
75°	77.7	4.9	0.6	0.6	0.6
77.5°	57.3	1.8	0.6	0.6	0.0
80°	38.8	0.6	0.6	0.6	0.0
82.5°	21.6	0.0	0.6	0.6	0.0
85°	7.4	0.0	0.0	0.6	0.0
87.5°	0.0	0.0	0.0	0.6	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	15.89	17.17	16.26	17.48	17.80	0.00	0.00	0.00	0.00	0.00
	3H	17.83	18.97	18.21	19.30	19.66	0.00	0.00	0.00	0.00	0.00
	4H	18.66	19.72	19.07	20.07	20.45	0.00	0.00	0.00	0.00	0.00
	6H	19.21	20.18	19.63	20.55	20.95	0.00	0.00	0.00	0.00	0.00
	8H	19.34	20.26	19.77	20.65	21.05	0.00	0.00	0.00	0.00	0.00
	12H	19.37	20.24	19.80	20.62	21.05	0.00	0.00	0.00	0.00	0.00
4H	2H	15.65	16.71	16.06	17.06	17.44	0.00	0.00	0.00	0.00	0.00
	3H	17.61	18.47	18.02	18.87	19.28	0.00	0.00	0.00	0.00	0.00
	4H	18.42	19.19	18.86	19.61	20.05	0.00	0.00	0.00	0.00	0.00
	6H	19.02	19.68	19.48	20.13	20.60	0.00	0.00	0.00	0.00	0.00
	8H	19.17	19.79	19.64	20.24	20.71	0.00	0.00	0.00	0.00	0.00
	12H	19.22	19.76	19.71	20.25	20.72	0.00	0.00	0.00	0.00	0.00
8H	4H	18.28	18.90	18.75	19.34	19.81	0.00	0.00	0.00	0.00	0.00
	6H	18.86	19.36	19.36	19.86	20.34	0.00	0.00	0.00	0.00	0.00
	8H	19.01	19.46	19.53	19.97	20.47	0.00	0.00	0.00	0.00	0.00
	12H	19.07	19.46	19.58	19.96	20.53	0.00	0.00	0.00	0.00	0.00
12H	4H	18.23	18.77	18.72	19.26	19.73	0.00	0.00	0.00	0.00	0.00
	6H	18.79	19.24	19.32	19.76	20.25	0.00	0.00	0.00	0.00	0.00
	8H	18.96	19.36	19.48	19.85	20.43	0.00	0.00	0.00	0.00	0.00