

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: P1055773

Luminaire Tested: S123R3DR-H560D850-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055773
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-H560D850-X4F0-XX-UDD-FLL-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

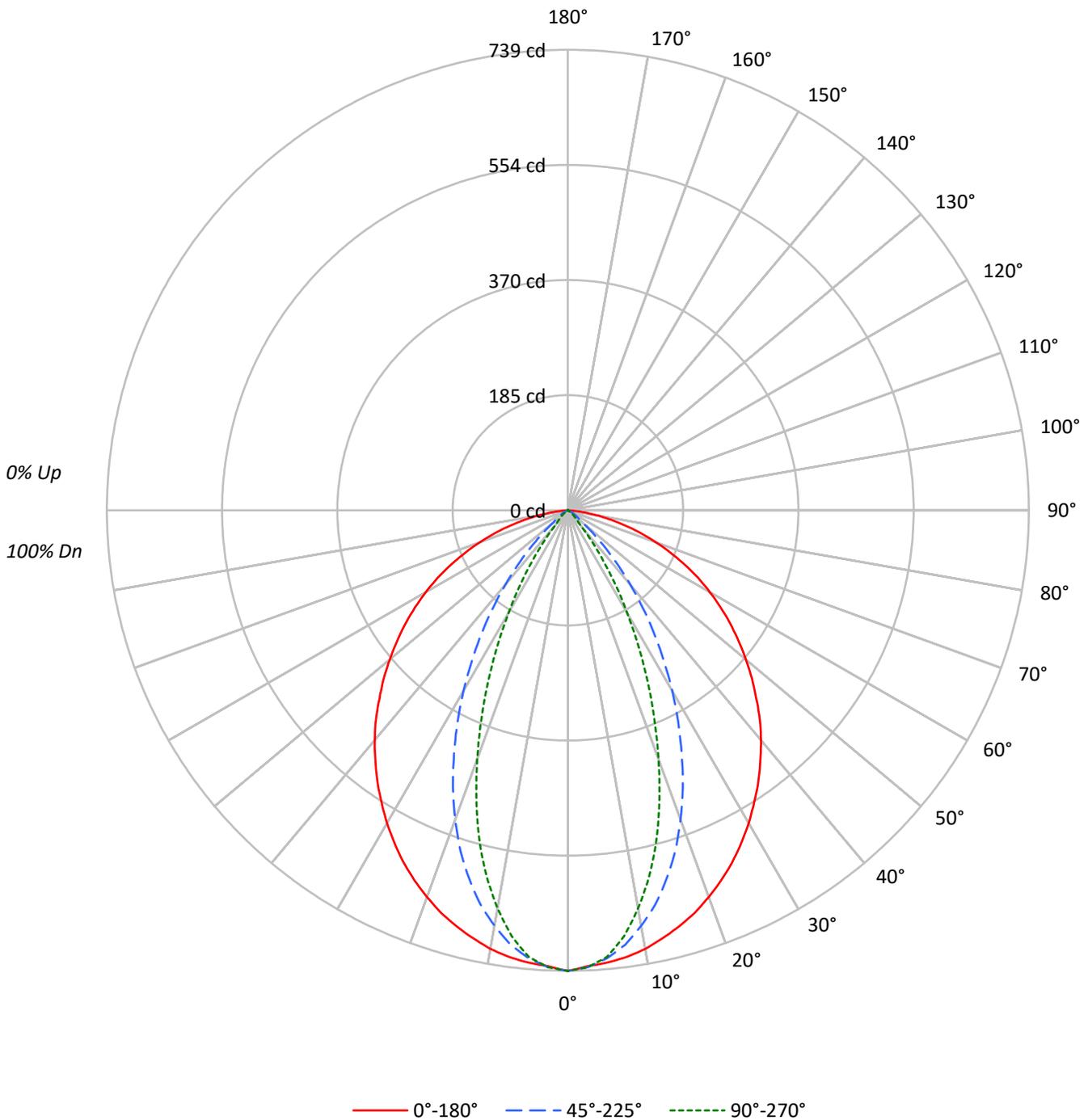
Lumens per Lamp: N/A
Luminaire Lumens: 865.2 lumens
Efficiency: N/A
Efficacy: 50.0 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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	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	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59
6	81	70	63	57	79	69	62	57	67	61	57	66	61	56	64	60	56	54
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8912	8912	8912
5°	8817	8733	8705
10°	8750	8289	7942
15°	8624	7638	6844
20°	8470	6778	5450
25°	8293	5743	4019
30°	8070	4654	2637
35°	7833	3544	1445
40°	7580	2450	494
45°	7282	1425	288
50°	6991	561	173
55°	6688	355	80
60°	6342	222	36
65°	5905	108	23
70°	5298	53	28
75°	4500	37	37
80°	3353	56	0
85°	1273	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7282 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.8	7.8
10°-20°	172.0	19.9
20°-30°	205.2	23.7
30°-40°	174.0	20.1
40°-50°	118.3	13.7
50°-60°	73.3	8.5
60°-70°	37.1	4.3
70°-80°	15.2	1.8
80°-90°	2.3	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°	444.9	51.4
0°-40°	619.0	71.5
0°-60°	810.5	93.7
0°-90°	865.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	865.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	739	739	739	739	739	
5°	728	735	722	716	719	69
15°	691	673	612	564	548	195
25°	623	565	432	334	302	287
35°	532	427	241	130	98	333
45°	427	280	84	21	17	330
55°	318	141	17	6	4	284
65°	207	34	4	1	1	204
75°	97	6	1	1	1	103
85°	9	0	0	1	0	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	739.2	739.2	739.2	739.2	739.2
2.5°	732.3	742.3	733.8	733.1	733.8
5°	728.5	735.4	721.6	716.2	719.3
7.5°	723.1	726.2	703.2	689.4	689.4
10°	714.7	712.4	677.1	654.1	648.7
12.5°	703.2	694.0	648.0	611.9	602.0
15°	690.9	673.3	611.9	563.6	548.3
17.5°	677.1	650.3	572.8	509.9	487.7
20°	660.2	624.2	528.3	451.7	424.8
22.5°	642.6	595.8	481.6	391.8	361.9
25°	623.4	565.1	431.7	333.6	302.1
27.5°	602.0	532.9	382.6	277.6	243.1
30°	579.7	499.2	334.3	223.9	189.4
32.5°	555.9	463.9	286.0	174.8	142.6
35°	532.2	427.1	240.8	129.6	98.2
37.5°	506.9	390.3	197.1	89.7	62.1
40°	481.6	354.3	155.7	56.7	31.4
42.5°	455.5	316.7	118.1	28.4	21.5
45°	427.1	279.9	83.6	20.7	16.9
47.5°	400.3	244.6	55.2	16.9	13.0
50°	372.7	209.3	29.9	12.3	9.2
52.5°	345.1	175.6	21.5	9.2	6.1
55°	318.2	141.1	16.9	6.1	3.8
57.5°	290.6	111.2	13.0	3.8	2.3
60°	263.0	82.0	9.2	2.3	1.5
62.5°	235.4	56.7	6.1	1.5	0.8
65°	207.0	34.5	3.8	0.8	0.8
67.5°	177.9	23.8	2.3	0.8	0.8
70°	150.3	16.9	1.5	0.8	0.8
72.5°	122.7	10.7	0.8	0.8	0.0
75°	96.6	6.1	0.8	0.8	0.8
77.5°	71.3	2.3	0.8	0.8	0.0
80°	48.3	0.8	0.8	0.8	0.0
82.5°	26.8	0.0	0.8	0.8	0.0
85°	9.2	0.0	0.0	0.8	0.0
87.5°	0.0	0.0	0.0	0.8	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	16.65	17.93	17.01	18.24	18.56	0.00	0.00	0.00	0.00	0.00
	3H	18.59	19.73	18.97	20.06	20.42	0.00	0.00	0.00	0.00	0.00
	4H	19.42	20.48	19.82	20.83	21.21	0.00	0.00	0.00	0.00	0.00
	6H	19.97	20.94	20.39	21.31	21.71	0.00	0.00	0.00	0.00	0.00
	8H	20.10	21.02	20.53	21.41	21.81	0.00	0.00	0.00	0.00	0.00
	12H	20.12	21.00	20.56	21.38	21.81	0.00	0.00	0.00	0.00	0.00
4H	2H	16.41	17.47	16.81	17.82	18.20	0.00	0.00	0.00	0.00	0.00
	3H	18.36	19.23	18.78	19.63	20.04	0.00	0.00	0.00	0.00	0.00
	4H	19.18	19.95	19.61	20.37	20.81	0.00	0.00	0.00	0.00	0.00
	6H	19.78	20.44	20.24	20.89	21.36	0.00	0.00	0.00	0.00	0.00
	8H	19.93	20.55	20.40	21.00	21.47	0.00	0.00	0.00	0.00	0.00
	12H	19.98	20.52	20.46	21.01	21.48	0.00	0.00	0.00	0.00	0.00
8H	4H	19.04	19.65	19.51	20.10	20.57	0.00	0.00	0.00	0.00	0.00
	6H	19.62	20.12	20.12	20.62	21.10	0.00	0.00	0.00	0.00	0.00
	8H	19.77	20.22	20.29	20.73	21.23	0.00	0.00	0.00	0.00	0.00
	12H	19.82	20.22	20.34	20.71	21.29	0.00	0.00	0.00	0.00	0.00
12H	4H	18.99	19.53	19.47	20.01	20.49	0.00	0.00	0.00	0.00	0.00
	6H	19.55	20.00	20.08	20.52	21.01	0.00	0.00	0.00	0.00	0.00
	8H	19.72	20.12	20.24	20.61	21.18	0.00	0.00	0.00	0.00	0.00