

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: P1055638

Luminaire Tested: S123R3DR-S560D850-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055638
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-S560D850-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

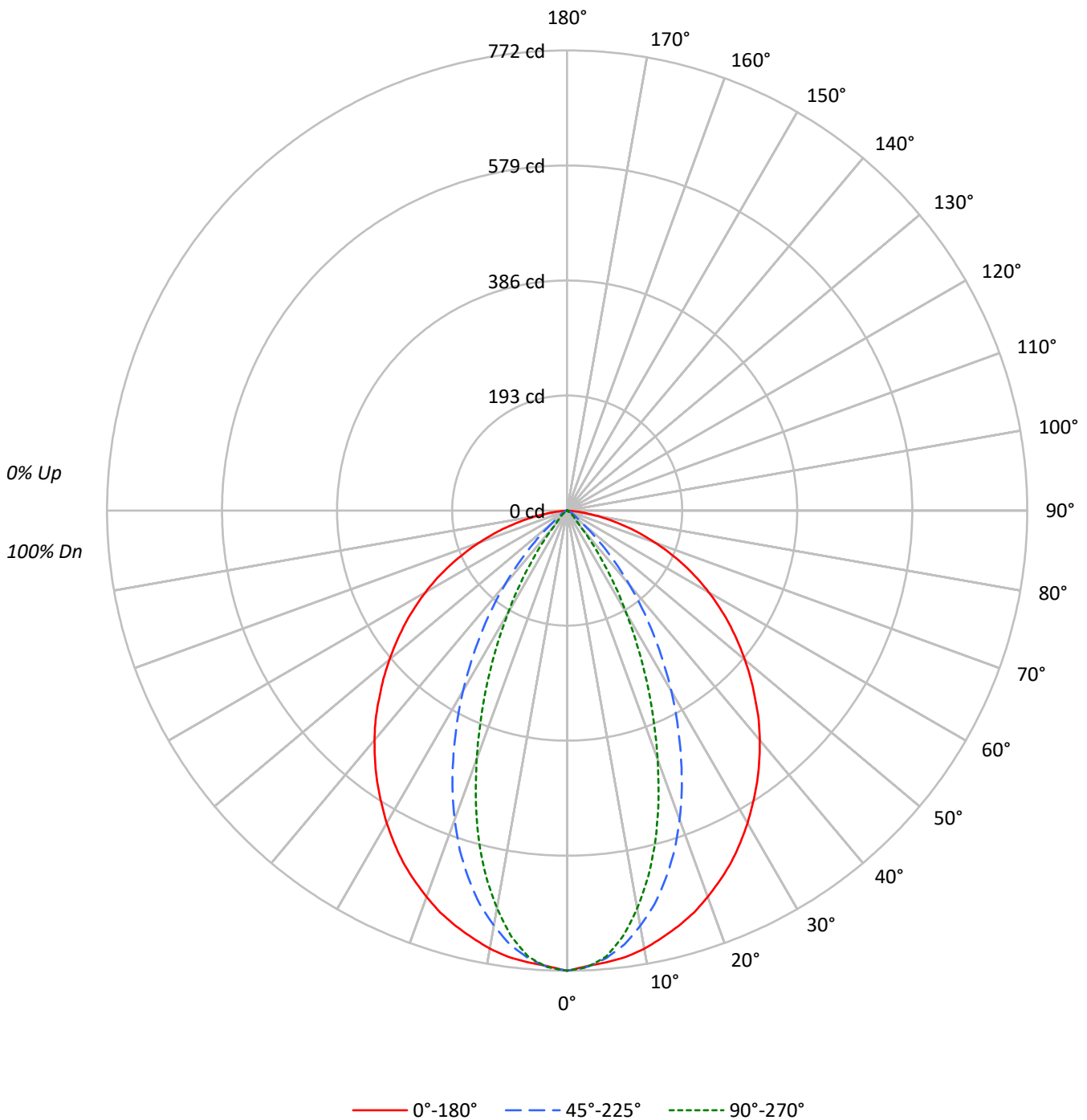
Lumens per Lamp: N/A
Luminaire Lumens: 903.6 lumens
Efficiency: N/A
Efficacy: 47.3 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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	58	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°	9308	9308	9308
5°	9208	9120	9091
10°	9138	8658	8294
15°	9007	7977	7147
20°	8846	7080	5693
25°	8661	5998	4197
30°	8428	4861	2754
35°	8180	3702	1509
40°	7915	2559	516
45°	7606	1488	300
50°	7300	585	180
55°	6987	370	84
60°	6624	231	39
65°	6168	114	23
70°	5534	56	28
75°	4700	37	37
80°	3506	56	0
85°	1328	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7606 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.8	7.8
10°-20°	179.6	19.9
20°-30°	214.3	23.7
30°-40°	181.8	20.1
40°-50°	123.5	13.7
50°-60°	76.6	8.5
60°-70°	38.8	4.3
70°-80°	15.8	1.8
80°-90°	2.4	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°	464.7	51.4
0°-40°	646.4	71.5
0°-60°	846.5	93.7
0°-90°	903.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	903.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	772	772	772	772	772	
5°	761	768	754	748	751	72
15°	722	703	639	589	573	203
25°	651	590	451	348	316	300
35°	556	446	252	135	102	347
45°	446	292	87	22	18	345
55°	332	147	18	6	4	297
65°	216	36	4	1	1	214
75°	101	6	1	1	1	107
85°	10	0	0	1	0	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	772.0	772.0	772.0	772.0	772.0
2.5°	764.8	775.2	766.4	765.6	766.4
5°	760.8	768.0	753.6	748.0	751.2
7.5°	755.2	758.4	734.4	720.0	720.0
10°	746.4	744.0	707.2	683.1	677.5
12.5°	734.4	724.8	676.7	639.1	628.7
15°	721.6	703.2	639.1	588.6	572.6
17.5°	707.2	679.1	598.2	532.6	509.3
20°	689.5	651.9	551.8	471.7	443.7
22.5°	671.1	622.3	502.9	409.2	378.0
25°	651.1	590.2	450.9	348.4	315.5
27.5°	628.7	556.6	399.6	289.9	253.9
30°	605.4	521.4	349.2	233.8	197.8
32.5°	580.6	484.5	298.7	182.6	149.0
35°	555.8	446.1	251.5	135.3	102.5
37.5°	529.4	407.6	205.8	93.7	64.9
40°	502.9	370.0	162.6	59.3	32.8
42.5°	475.7	330.8	123.3	29.6	22.4
45°	446.1	292.3	87.3	21.6	17.6
47.5°	418.0	255.5	57.7	17.6	13.6
50°	389.2	218.6	31.2	12.8	9.6
52.5°	360.4	183.4	22.4	9.6	6.4
55°	332.4	147.4	17.6	6.4	4.0
57.5°	303.5	116.1	13.6	4.0	2.4
60°	274.7	85.7	9.6	2.4	1.6
62.5°	245.9	59.3	6.4	1.6	0.8
65°	216.2	36.0	4.0	0.8	0.8
67.5°	185.8	24.8	2.4	0.8	0.8
70°	157.0	17.6	1.6	0.8	0.8
72.5°	128.1	11.2	0.8	0.8	0.0
75°	100.9	6.4	0.8	0.8	0.8
77.5°	74.5	2.4	0.8	0.8	0.0
80°	50.5	0.8	0.8	0.8	0.0
82.5°	28.0	0.0	0.8	0.8	0.0
85°	9.6	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	16.80	18.08	17.16	18.39	18.71	0.00	0.00	0.00	0.00	0.00
	3H	18.74	19.88	19.12	20.21	20.57	0.00	0.00	0.00	0.00	0.00
	4H	19.57	20.63	19.97	20.98	21.36	0.00	0.00	0.00	0.00	0.00
	6H	20.12	21.09	20.54	21.46	21.86	0.00	0.00	0.00	0.00	0.00
	8H	20.25	21.17	20.68	21.56	21.96	0.00	0.00	0.00	0.00	0.00
	12H	20.27	21.15	20.71	21.53	21.96	0.00	0.00	0.00	0.00	0.00
4H	2H	16.56	17.62	16.96	17.97	18.35	0.00	0.00	0.00	0.00	0.00
	3H	18.51	19.38	18.93	19.78	20.18	0.00	0.00	0.00	0.00	0.00
	4H	19.33	20.10	19.76	20.52	20.96	0.00	0.00	0.00	0.00	0.00
	6H	19.93	20.59	20.39	21.04	21.51	0.00	0.00	0.00	0.00	0.00
	8H	20.08	20.70	20.55	21.15	21.62	0.00	0.00	0.00	0.00	0.00
	12H	20.13	20.67	20.62	21.16	21.63	0.00	0.00	0.00	0.00	0.00
8H	4H	19.19	19.80	19.66	20.25	20.72	0.00	0.00	0.00	0.00	0.00
	6H	19.77	20.27	20.27	20.77	21.25	0.00	0.00	0.00	0.00	0.00
	8H	19.92	20.37	20.44	20.88	21.38	0.00	0.00	0.00	0.00	0.00
	12H	19.97	20.37	20.49	20.87	21.44	0.00	0.00	0.00	0.00	0.00
12H	4H	19.14	19.68	19.62	20.17	20.64	0.00	0.00	0.00	0.00	0.00
	6H	19.70	20.16	20.23	20.67	21.16	0.00	0.00	0.00	0.00	0.00
	8H	19.87	20.27	20.39	20.76	21.34	0.00	0.00	0.00	0.00	0.00