

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: P1055768

Luminaire Tested: S123R3DR-H560D835-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055768
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-H560D835-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

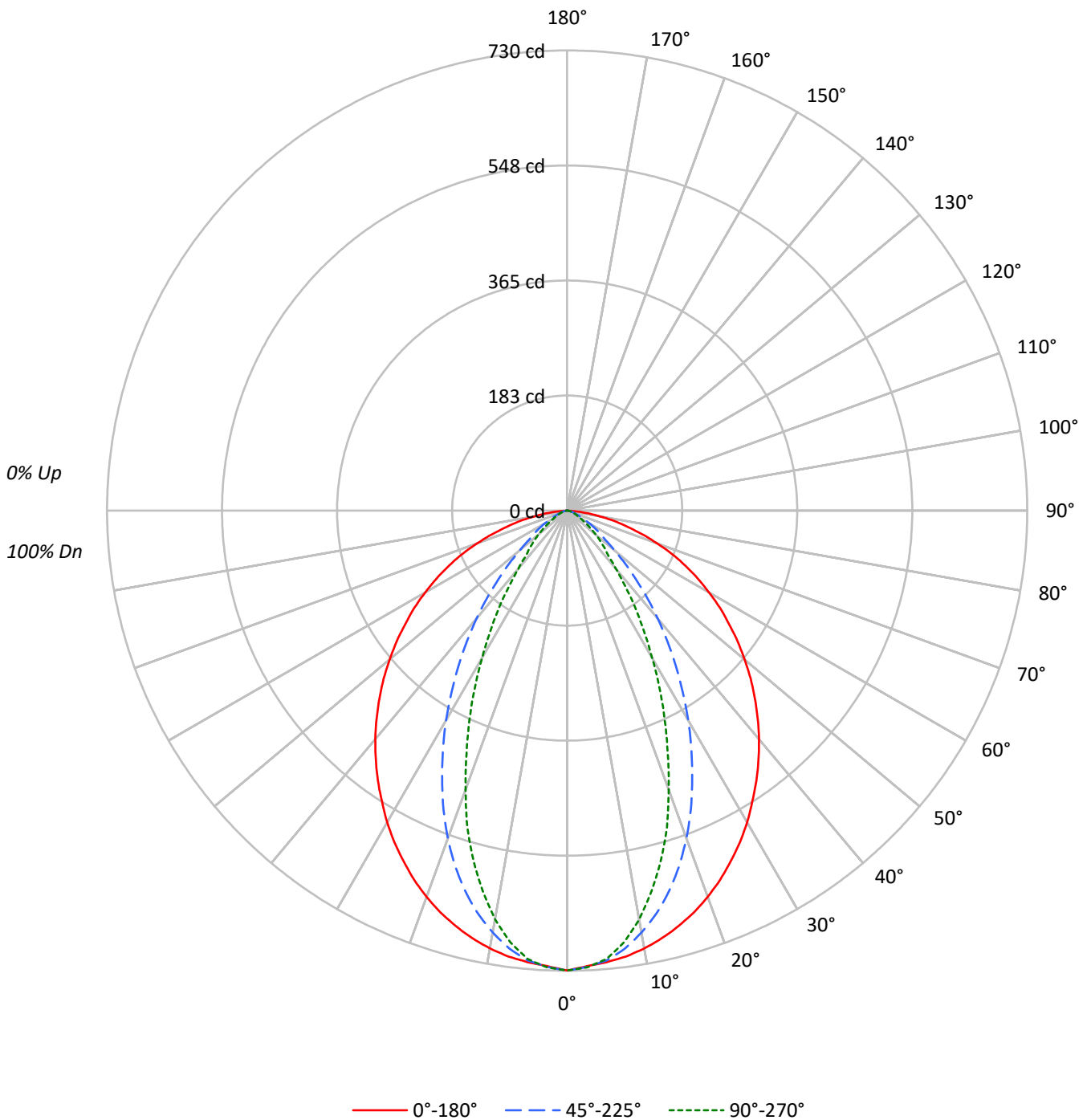
Lumens per Lamp: N/A
Luminaire Lumens: 1014.5 lumens
Efficiency: N/A
Efficacy: 58.6 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
Input Voltage (V): 120
Input Current (Ain): 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	61	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°	8795	8795	8795
5°	8703	8669	8645
10°	8635	8321	8059
15°	8519	7802	7172
20°	8365	7098	6042
25°	8168	6246	4875
30°	7951	5351	3755
35°	7703	4417	2779
40°	7454	3514	1893
45°	7180	2629	1427
50°	6887	1829	1116
55°	6583	1337	813
60°	6269	1001	584
65°	5897	670	454
70°	5337	486	367
75°	4607	354	289
80°	3694	285	243
85°	1909	290	194

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7180 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.4	6.6
10°-20°	175.5	17.3
20°-30°	220.5	21.7
30°-40°	205.4	20.2
40°-50°	157.2	15.5
50°-60°	104.5	10.3
60°-70°	56.3	5.6
70°-80°	23.1	2.3
80°-90°	4.4	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°	463.5	45.7
0°-40°	668.9	65.9
0°-60°	930.7	91.7
0°-90°	1014.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1014.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	730	730	730	730	730	
5°	719	727	716	714	714	68
15°	682	671	625	588	575	192
25°	614	572	470	391	366	283
35°	523	446	300	212	189	327
45°	421	311	154	91	84	325
55°	313	181	64	44	39	281
65°	207	70	24	17	16	204
75°	99	17	8	7	6	106
85°	14	2	2	2	1	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	729.5	729.5	729.5	729.5	729.5
2.5°	723.3	732.2	724.6	725.3	725.3
5°	719.1	726.7	716.3	713.6	714.3
7.5°	713.6	718.4	701.1	692.1	690.8
10°	705.3	706.7	679.7	663.8	658.3
12.5°	694.9	690.1	654.8	628.5	618.2
15°	682.5	671.4	625.1	588.4	574.6
17.5°	668.6	650.0	591.2	543.5	526.9
20°	652.0	625.8	553.2	493.7	470.9
22.5°	634.1	600.2	513.1	442.5	416.9
25°	614.0	572.5	469.5	391.4	366.5
27.5°	593.3	542.8	426.6	343.0	317.4
30°	571.1	512.4	384.4	295.9	269.7
32.5°	546.9	479.2	340.9	252.4	226.1
35°	523.4	446.0	300.1	212.3	188.8
37.5°	498.5	412.8	260.7	177.0	150.7
40°	473.6	378.9	223.3	142.4	120.3
42.5°	447.4	345.0	188.1	113.4	96.1
45°	421.1	311.2	154.2	90.6	83.7
47.5°	394.8	277.3	124.5	78.1	71.2
50°	367.2	244.8	97.5	66.4	59.5
52.5°	340.9	212.3	76.1	54.6	48.4
55°	313.2	181.2	63.6	44.3	38.7
57.5°	287.6	149.4	52.6	34.6	30.4
60°	260.0	121.0	41.5	27.0	24.2
62.5°	233.7	94.7	31.8	21.4	19.4
65°	206.7	69.8	23.5	17.3	15.9
67.5°	179.8	50.5	18.0	13.8	13.1
70°	151.4	38.0	13.8	11.1	10.4
72.5°	124.5	27.0	10.4	9.0	8.3
75°	98.9	16.6	7.6	6.9	6.2
77.5°	76.1	9.7	5.5	5.5	4.8
80°	53.2	5.5	4.1	4.1	3.5
82.5°	32.5	3.5	2.8	2.8	2.8
85°	13.8	2.1	2.1	2.1	1.4
87.5°	2.1	0.7	0.7	0.7	0.7
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	17.37	18.72	17.73	19.04	19.35	5.94	7.30	6.31	7.61	7.93
	3H	19.12	20.33	19.50	20.66	21.02	6.61	7.81	6.98	8.14	8.50
	4H	19.82	20.94	20.22	21.30	21.68	6.80	7.93	7.20	8.28	8.66
	6H	20.33	21.37	20.75	21.74	22.13	6.92	7.95	7.34	8.32	8.72
	8H	20.47	21.45	20.90	21.84	22.25	6.96	7.94	7.39	8.33	8.73
	12H	20.52	21.46	20.96	21.84	22.27	6.97	7.91	7.40	8.29	8.72
4H	2H	17.18	18.30	17.58	18.65	19.03	6.50	7.62	6.90	7.97	8.36
	3H	18.97	19.89	19.38	20.29	20.69	7.30	8.22	7.71	8.62	9.02
	4H	19.66	20.49	20.10	20.90	21.35	7.55	8.38	7.99	8.80	9.24
	6H	20.23	20.94	20.70	21.39	21.85	7.75	8.46	8.21	8.91	9.37
	8H	20.41	21.07	20.88	21.52	21.99	7.80	8.47	8.27	8.91	9.38
	12H	20.49	21.08	20.98	21.56	22.04	7.84	8.43	8.32	8.91	9.38
8H	4H	19.54	20.20	20.01	20.65	21.12	7.87	8.53	8.34	8.98	9.45
	6H	20.09	20.64	20.60	21.13	21.61	8.11	8.65	8.61	9.15	9.63
	8H	20.27	20.76	20.79	21.27	21.76	8.20	8.69	8.72	9.20	9.69
	12H	20.37	20.80	20.89	21.30	21.87	8.29	8.71	8.80	9.21	9.78
12H	4H	19.50	20.08	19.98	20.57	21.04	7.91	8.50	8.40	8.98	9.45
	6H	20.04	20.52	20.56	21.04	21.53	8.16	8.64	8.68	9.16	9.65
	8H	20.23	20.66	20.74	21.15	21.72	8.29	8.71	8.80	9.21	9.78