

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: P1055174

Luminaire Tested: S122R3DR-S290D835-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055174
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-3)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122R3DR-S290D835-X4F0-XX-UDD-F-S
Description: DEFINE 2, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

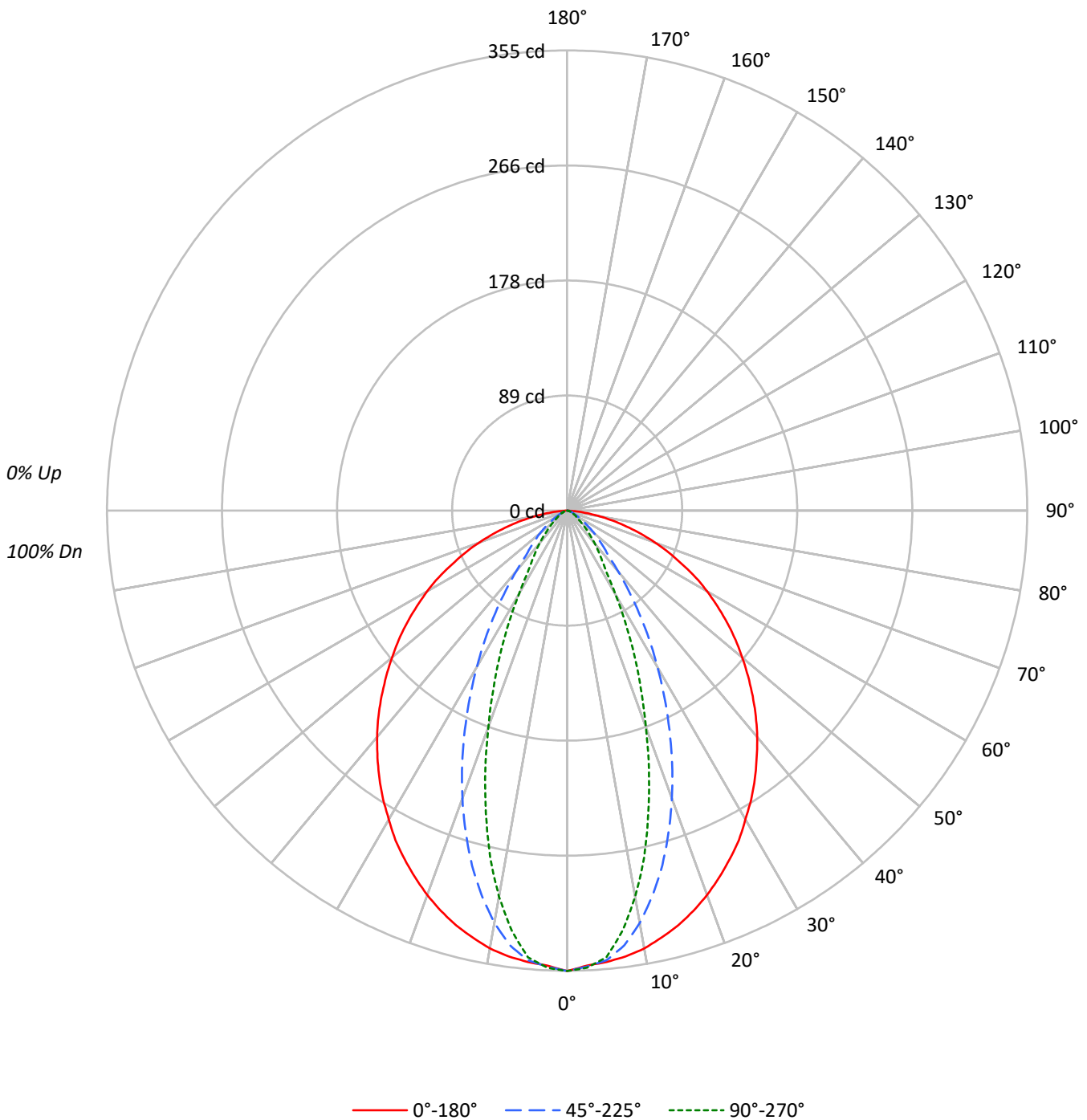
Lumens per Lamp: N/A
Luminaire Lumens: 407.0 lumens
Efficiency: N/A
Efficacy: 32.3 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.64 / 0.81
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
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: P1055174

CATALOG NUMBER: S122R3DR-S290D835-X4F0-XX-UDD-F-S

Luminous Intensity Polar Plot





TEST NUMBER: P1055174

CATALOG NUMBER: S122R3DR-S290D835-X4F0-XX-UDD-F-S

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	102	109	106	103	100	102	99	97	98	96	94	94	93	92	90
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	74	80	76	73	71
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64
5	85	75	67	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58
6	80	69	62	56	78	68	61	56	66	60	56	65	59	55	63	59	55	53
7	75	64	57	52	74	63	56	51	62	56	51	60	55	51	59	54	50	49
8	71	59	52	47	69	59	52	47	58	51	47	56	51	47	55	50	47	45
9	67	56	49	44	66	55	48	44	54	48	44	53	47	43	52	47	43	42
10	63	52	45	41	62	52	45	41	51	45	41	50	44	40	49	44	40	39

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6730	6730	6730
5°	6647	6622	6580
10°	6599	6214	5820
15°	6496	5559	4747
20°	6363	4764	3581
25°	6204	3903	2557
30°	6018	3047	1628
35°	5840	2234	1087
40°	5641	1506	819
45°	5423	1061	584
50°	5196	808	410
55°	4974	562	301
60°	4733	379	246
65°	4389	273	197
70°	4005	216	166
75°	3470	190	124
80°	2749	142	142
85°	1522	196	87

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5423 cd/sqm



TEST NUMBER: P1055174

CATALOG NUMBER: S122R3DR-S290D835-X4F0-XX-UDD-F-S

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.5	8.0
10°-20°	79.7	19.6
20°-30°	91.0	22.4
30°-40°	77.2	19.0
40°-50°	57.6	14.2
50°-60°	37.2	9.1
60°-70°	20.8	5.1
70°-80°	9.1	2.2
80°-90°	1.9	0.5
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°	203.2	49.9
0°-40°	280.4	68.9
0°-60°	375.3	92.2
0°-90°	407.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	407.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	355	355	355	355	355	
5°	350	354	348	345	346	33
15°	331	323	283	253	242	93
25°	297	262	187	137	122	137
35°	252	190	97	53	47	158
45°	202	120	40	26	22	156
55°	151	57	17	10	9	135
65°	98	21	6	5	4	97
75°	47	4	3	2	2	51
85°	7	0	1	0	0	10
90°	0	0	0	0	0	



TEST NUMBER: P1055174

CATALOG NUMBER: S122R3DR-S290D835-X4F0-XX-UDD-F-S

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	355.2	355.2	355.2	355.2	355.2
2.5°	351.3	356.5	352.1	352.1	353.0
5°	349.5	353.9	348.2	344.7	346.0
7.5°	346.9	349.9	338.2	327.7	326.9
10°	343.0	344.3	323.0	306.9	302.5
12.5°	337.3	334.3	304.2	281.6	274.2
15°	331.2	323.0	283.4	253.3	242.0
17.5°	323.8	309.0	260.3	223.7	209.8
20°	315.6	294.7	236.3	192.8	177.6
22.5°	306.4	278.6	211.5	163.7	148.4
25°	296.8	262.0	186.7	136.7	122.3
27.5°	286.8	244.6	162.4	112.3	96.6
30°	275.1	226.8	139.3	88.8	74.4
32.5°	264.2	208.1	118.0	68.8	56.6
35°	252.5	190.2	96.6	52.7	47.0
37.5°	240.3	172.4	77.9	44.4	39.6
40°	228.1	154.5	60.9	37.4	33.1
42.5°	215.5	137.1	47.0	31.3	27.0
45°	202.4	120.1	39.6	25.7	21.8
47.5°	189.3	103.2	33.1	20.5	17.4
50°	176.3	87.1	27.4	16.1	13.9
52.5°	163.7	71.8	21.8	13.1	11.3
55°	150.6	57.0	17.0	10.4	9.1
57.5°	137.5	44.4	13.1	8.7	7.8
60°	124.9	33.5	10.0	7.0	6.5
62.5°	111.9	27.0	7.8	5.7	5.2
65°	97.9	20.9	6.1	4.8	4.4
67.5°	85.3	15.2	4.8	3.9	3.5
70°	72.3	10.4	3.9	3.5	3.0
72.5°	59.6	6.5	3.0	2.6	2.6
75°	47.4	4.4	2.6	2.2	1.7
77.5°	36.1	2.6	1.7	1.7	1.3
80°	25.2	1.7	1.3	1.3	1.3
82.5°	15.7	1.3	0.9	0.9	0.9
85°	7.0	0.4	0.9	0.4	0.4
87.5°	1.3	0.4	0.4	0.4	0.4
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1055174
 CATALOG NUMBER: S122R3DR-S290D835-X4F0-XX-UDD-F-S

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	14.87	16.19	15.24	16.51	16.82	1.18	2.50	1.54	2.81	3.13
	3H	17.34	18.51	17.72	18.84	19.21	2.03	3.20	2.41	3.53	3.89
	4H	18.30	19.39	18.70	19.74	20.13	2.30	3.39	2.70	3.74	4.12
	6H	18.99	19.99	19.40	20.36	20.75	2.49	3.49	2.90	3.86	4.25
	8H	19.18	20.13	19.61	20.52	20.93	2.57	3.52	3.00	3.91	4.31
	12H	19.26	20.17	19.70	20.55	20.99	2.59	3.50	3.02	3.88	4.31
4H	2H	14.66	15.75	15.06	16.10	16.49	1.75	2.85	2.16	3.20	3.58
	3H	17.14	18.04	17.56	18.44	18.84	2.78	3.68	3.19	4.08	4.48
	4H	18.09	18.89	18.52	19.31	19.75	3.15	3.95	3.58	4.37	4.81
	6H	18.84	19.53	19.30	19.98	20.44	3.44	4.13	3.90	4.57	5.04
	8H	19.08	19.73	19.55	20.17	20.64	3.54	4.19	4.01	4.63	5.10
	12H	19.21	19.78	19.70	20.26	20.74	3.58	4.15	4.07	4.63	5.11
8H	4H	17.95	18.60	18.42	19.04	19.52	3.52	4.16	3.98	4.61	5.08
	6H	18.69	19.21	19.19	19.71	20.19	3.87	4.40	4.37	4.89	5.37
	8H	18.94	19.41	19.46	19.92	20.41	4.02	4.49	4.54	5.01	5.50
	12H	19.09	19.50	19.60	20.00	20.57	4.10	4.51	4.61	5.01	5.58
12H	4H	17.91	18.48	18.39	18.96	19.43	3.64	4.20	4.12	4.69	5.16
	6H	18.63	19.10	19.15	19.62	20.11	3.99	4.46	4.51	4.98	5.47
	8H	18.89	19.31	19.41	19.80	20.37	4.18	4.59	4.70	5.09	5.66