

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: P1055180

Luminaire Tested: S122R3DR-S290D850-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055180
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-S290D850-X4F0-XX-UDD-F-S
Description: DEFINE 2, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

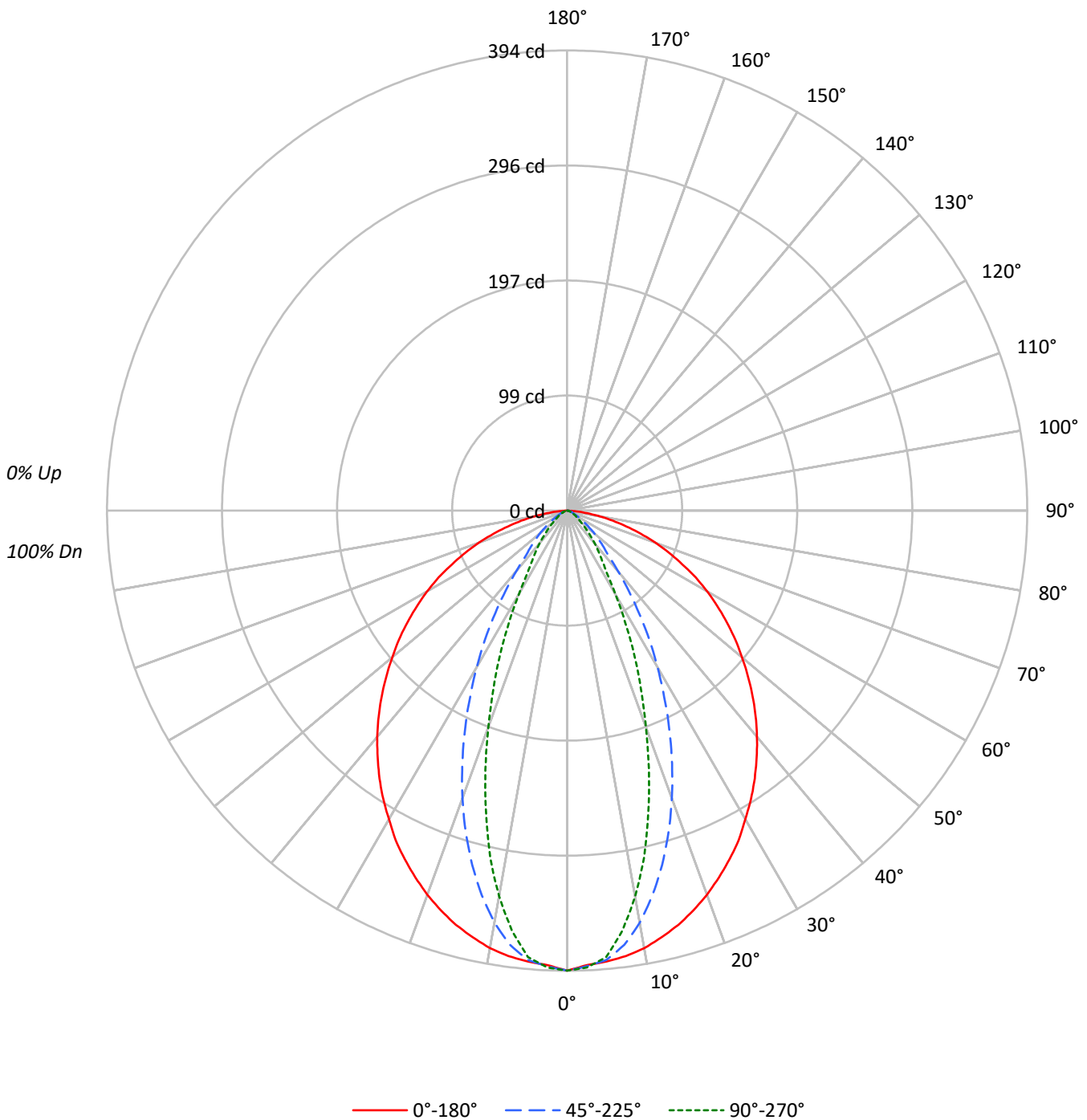
Lumens per Lamp: N/A
Luminaire Lumens: 451.4 lumens
Efficiency: N/A
Efficacy: 35.8 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.64 / 0.81
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

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: P1055180

CATALOG NUMBER: S122R3DR-S290D850-X4F0-XX-UDD-F-S

Luminous Intensity Polar Plot





TEST NUMBER: P1055180

CATALOG NUMBER: S122R3DR-S290D850-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	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					100			
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	92	90					90			
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80					80			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	74	80	76	73	71					71			
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64					64			
5	85	75	67	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58					58			
6	80	69	62	56	78	68	61	56	66	60	56	65	59	55	63	59	55	53					53			
7	75	64	57	52	74	63	56	51	62	56	51	60	55	51	59	54	50	49					49			
8	71	59	52	47	69	59	52	47	58	51	47	56	51	47	55	50	47	45					45			
9	67	56	49	44	66	55	48	44	54	48	44	53	47	43	52	47	43	42					42			
10	63	52	45	41	62	52	45	41	51	45	41	50	44	40	49	44	40	39					39			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7463	7463	7463
5°	7371	7345	7297
10°	7318	6891	6454
15°	7204	6163	5264
20°	7057	5284	3970
25°	6882	4329	2835
30°	6675	3380	1805
35°	6476	2479	1205
40°	6255	1672	908
45°	6015	1176	646
50°	5762	896	454
55°	5516	621	334
60°	5248	421	273
65°	4869	305	215
70°	4437	238	188
75°	3850	212	139
80°	3055	153	153
85°	1674	217	109

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6015 cd/sqm



TEST NUMBER: P1055180

CATALOG NUMBER: S122R3DR-S290D850-X4F0-XX-UDD-F-S

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.0	8.0
10°-20°	88.4	19.6
20°-30°	101.0	22.4
30°-40°	85.6	19.0
40°-50°	63.9	14.2
50°-60°	41.3	9.1
60°-70°	23.0	5.1
70°-80°	10.1	2.2
80°-90°	2.1	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°	225.4	49.9
0°-40°	311.0	68.9
0°-60°	416.2	92.2
0°-90°	451.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	451.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	394	394	394	394	394	
5°	388	392	386	382	384	37
15°	367	358	314	281	268	103
25°	329	291	207	152	136	152
35°	280	211	107	58	52	175
45°	224	133	44	28	24	173
55°	167	63	19	12	10	149
65°	109	23	7	5	5	108
75°	53	5	3	2	2	56
85°	8	0	1	0	0	11
90°	0	0	0	0	0	



TEST NUMBER: P1055180

CATALOG NUMBER: S122R3DR-S290D850-X4F0-XX-UDD-F-S

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	393.9	393.9	393.9	393.9	393.9
2.5°	389.5	395.3	390.5	390.5	391.5
5°	387.6	392.4	386.2	382.3	383.7
7.5°	384.7	388.1	375.1	363.5	362.5
10°	380.4	381.8	358.2	340.3	335.5
12.5°	374.1	370.7	337.4	312.3	304.1
15°	367.3	358.2	314.2	280.9	268.4
17.5°	359.1	342.7	288.7	248.1	232.7
20°	350.0	326.8	262.1	213.8	196.9
22.5°	339.8	308.9	234.6	181.5	164.6
25°	329.2	290.6	207.1	151.6	135.6
27.5°	318.1	271.3	180.0	124.5	107.2
30°	305.1	251.5	154.5	98.5	82.5
32.5°	293.0	230.7	130.8	76.3	62.8
35°	280.0	210.9	107.2	58.4	52.1
37.5°	266.5	191.1	86.4	49.2	43.9
40°	252.9	171.4	67.6	41.5	36.7
42.5°	238.9	152.1	52.1	34.8	29.9
45°	224.5	133.2	43.9	28.5	24.1
47.5°	210.0	114.4	36.7	22.7	19.3
50°	195.5	96.5	30.4	17.9	15.4
52.5°	181.5	79.6	24.1	14.5	12.6
55°	167.0	63.2	18.8	11.6	10.1
57.5°	152.5	49.2	14.5	9.7	8.7
60°	138.5	37.2	11.1	7.7	7.2
62.5°	124.1	29.9	8.7	6.3	5.8
65°	108.6	23.2	6.8	5.3	4.8
67.5°	94.6	16.9	5.3	4.3	3.9
70°	80.1	11.6	4.3	3.9	3.4
72.5°	66.1	7.2	3.4	2.9	2.9
75°	52.6	4.8	2.9	2.4	1.9
77.5°	40.1	2.9	1.9	1.9	1.4
80°	28.0	1.9	1.4	1.4	1.4
82.5°	17.4	1.4	1.0	1.0	1.0
85°	7.7	0.5	1.0	0.5	0.5
87.5°	1.4	0.5	0.5	0.5	0.5
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1055180
 CATALOG NUMBER: S122R3DR-S290D850-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	15.23	16.55	15.60	16.86	17.18	1.57	2.89	1.94	3.20	3.52
	3H	17.70	18.87	18.08	19.20	19.57	2.42	3.59	2.80	3.92	4.29
	4H	18.66	19.75	19.06	20.10	20.48	2.69	3.78	3.09	4.13	4.51
	6H	19.35	20.35	19.76	20.72	21.11	2.86	3.86	3.28	4.24	4.63
	8H	19.54	20.49	19.97	20.88	21.29	2.94	3.89	3.37	4.28	4.68
	12H	19.62	20.53	20.06	20.92	21.35	2.97	3.88	3.40	4.26	4.69
4H	2H	15.02	16.11	15.42	16.46	16.84	2.15	3.24	2.55	3.59	3.97
	3H	17.50	18.40	17.91	18.80	19.20	3.17	4.07	3.59	4.47	4.88
	4H	18.44	19.24	18.88	19.66	20.11	3.53	4.33	3.97	4.75	5.20
	6H	19.20	19.89	19.66	20.34	20.80	3.80	4.49	4.27	4.94	5.41
	8H	19.44	20.09	19.91	20.54	21.01	3.91	4.55	4.38	5.00	5.47
	12H	19.57	20.14	20.06	20.62	21.10	3.96	4.53	4.44	5.01	5.48
8H	4H	18.31	18.96	18.78	19.40	19.87	3.90	4.54	4.37	4.99	5.46
	6H	19.05	19.58	19.55	20.07	20.55	4.24	4.76	4.74	5.26	5.74
	8H	19.30	19.77	19.82	20.28	20.77	4.38	4.85	4.90	5.37	5.86
	12H	19.45	19.86	19.96	20.36	20.93	4.47	4.89	4.99	5.38	5.95
12H	4H	18.27	18.84	18.75	19.32	19.79	4.02	4.59	4.50	5.07	5.54
	6H	18.99	19.46	19.51	19.98	20.47	4.35	4.83	4.88	5.34	5.83
	8H	19.26	19.67	19.77	20.16	20.74	4.54	4.96	5.06	5.45	6.02