

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: P1055328

Luminaire Tested: S122R3DR-H290D940-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055328
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-1)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122R3DR-H290D940-X4F0-XX-UDD-FLL-W
Description: DEFINE 2, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

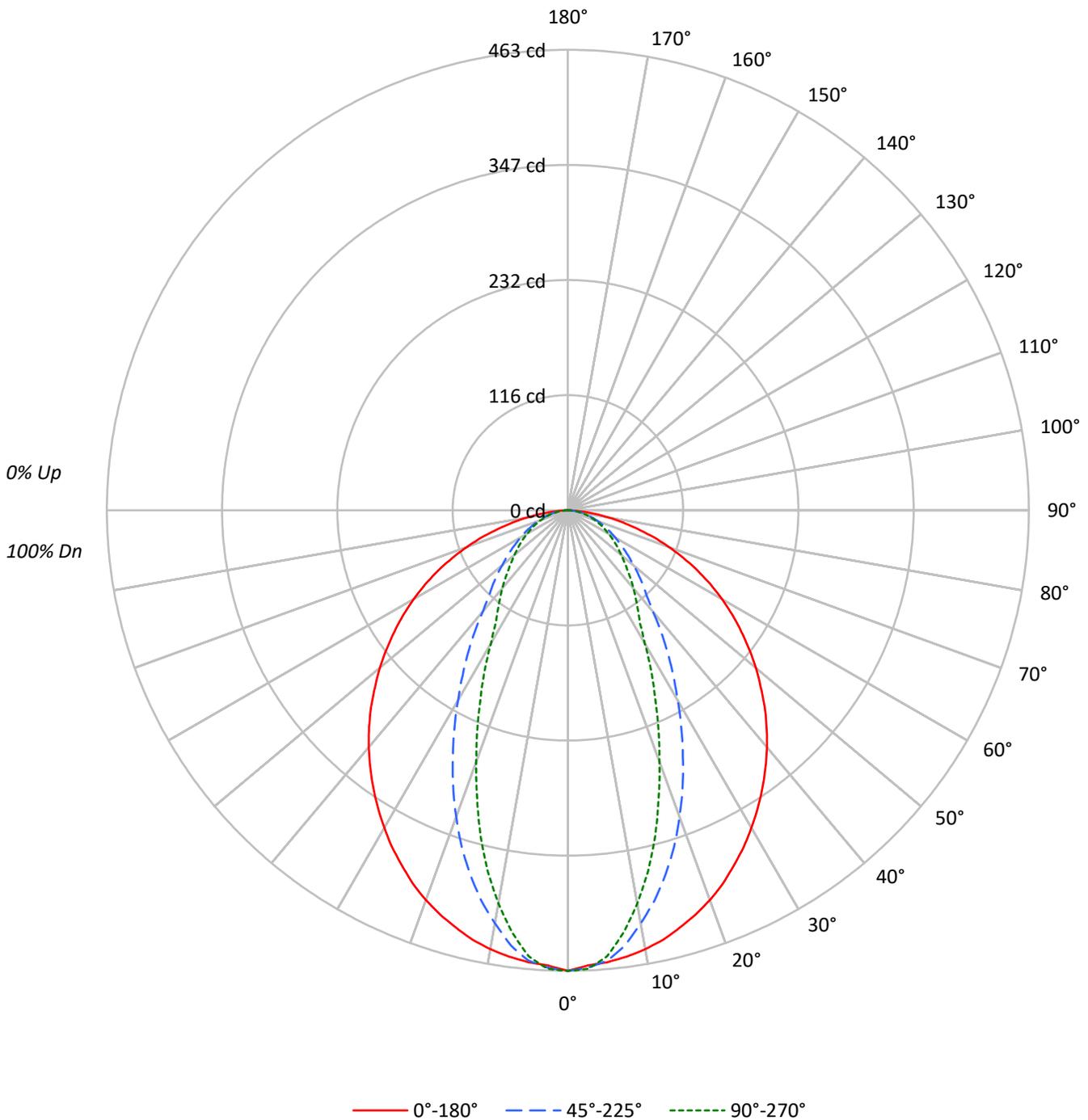
Lumens per Lamp: N/A
Luminaire Lumens: 700.4 lumens
Efficiency: N/A
Efficacy: 59.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.71 / 0.9
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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

TEST NUMBER: P1055328

CATALOG NUMBER: S122R3DR-H290D940-X4F0-XX-UDD-FLL-W

Luminous Intensity Polar Plot





TEST NUMBER: P1055328

CATALOG NUMBER: S122R3DR-H290D940-X4F0-XX-UDD-FLL-W

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	110	106	102	99	108	104	101	97	100	97	94	96	94	92	92	91	89	87					87			
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75					75			
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66					66			
4	87	76	69	63	85	75	68	62	73	66	61	71	65	61	68	64	60	58					58			
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	54	52					52			
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48	46					46			
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44	42					42			
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38					38			
9	62	50	43	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35					35			
10	59	47	39	35	58	46	39	34	45	39	34	44	38	34	43	38	34	32					32			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8774	8774	8774
5°	8674	8644	8564
10°	8619	8111	7724
15°	8520	7434	6645
20°	8407	6611	5426
25°	8238	5713	4329
30°	8064	4828	3380
35°	7880	4038	2838
40°	7689	3275	2528
45°	7489	2864	2261
50°	7268	2535	2066
55°	7022	2289	1919
60°	6779	2084	1788
65°	6455	1910	1686
70°	5983	1778	1590
75°	5300	1618	1501
80°	4517	1517	1397
85°	3109	1348	1261

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7489 cd/sqm



TEST NUMBER: P1055328

CATALOG NUMBER: S122R3DR-H290D940-X4F0-XX-UDD-FLL-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.4	6.1
10°-20°	107.1	15.3
20°-30°	132.0	18.8
30°-40°	126.6	18.1
40°-50°	109.2	15.6
50°-60°	84.8	12.1
60°-70°	58.0	8.3
70°-80°	31.5	4.5
80°-90°	8.6	1.2
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°	281.6	40.2
0°-40°	408.2	58.3
0°-60°	602.2	86.0
0°-90°	700.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	700.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	463	463	463	463	463	
5°	456	463	454	449	450	43
15°	434	421	379	348	339	123
25°	394	352	273	223	207	182
35°	341	270	175	130	123	213
45°	280	188	107	88	84	215
55°	213	113	69	60	58	190
65°	144	62	43	39	38	142
75°	72	28	22	21	20	78
85°	14	7	6	6	6	18
90°	0	0	0	0	0	



TEST NUMBER: P1055328

CATALOG NUMBER: S122R3DR-H290D940-X4F0-XX-UDD-FLL-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	463.1	463.1	463.1	463.1	463.1
2.5°	458.0	465.8	460.3	460.3	461.5
5°	456.1	462.7	454.5	448.7	450.3
7.5°	452.6	457.3	441.0	428.6	428.2
10°	448.0	448.3	421.6	405.4	401.5
12.5°	442.2	436.0	401.9	377.5	371.7
15°	434.4	421.2	379.0	348.1	338.8
17.5°	426.3	406.1	354.7	315.9	303.2
20°	417.0	387.9	327.9	283.8	269.1
22.5°	406.5	370.5	301.2	252.8	237.3
25°	394.1	351.9	273.3	223.0	207.1
27.5°	382.1	333.0	246.6	196.7	180.4
30°	368.6	312.4	220.7	171.5	154.5
32.5°	355.0	291.5	196.7	147.5	134.7
35°	340.7	270.2	174.6	130.1	122.7
37.5°	326.0	249.3	153.7	118.5	111.9
40°	310.9	228.4	132.4	107.2	102.2
42.5°	295.4	207.9	117.7	98.0	93.3
45°	279.5	188.2	106.9	88.3	84.4
47.5°	262.5	168.4	96.4	80.1	76.7
50°	246.6	149.4	86.0	72.8	70.1
52.5°	229.6	130.9	77.4	66.2	63.9
55°	212.6	113.1	69.3	60.0	58.1
57.5°	195.9	96.0	61.6	54.2	52.7
60°	178.9	82.5	55.0	48.8	47.2
62.5°	161.5	71.6	48.8	43.8	42.2
65°	144.0	61.6	42.6	38.7	37.6
67.5°	125.8	51.9	37.2	34.1	33.3
70°	108.0	43.4	32.1	29.4	28.7
72.5°	90.6	35.2	27.1	25.2	24.4
75°	72.4	28.3	22.1	20.9	20.5
77.5°	56.5	22.1	17.8	17.0	16.6
80°	41.4	16.3	13.9	13.2	12.8
82.5°	27.5	11.2	10.1	9.7	9.3
85°	14.3	7.0	6.2	6.2	5.8
87.5°	4.6	3.1	3.1	3.1	2.7
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1055328
 CATALOG NUMBER: S122R3DR-H290D940-X4F0-XX-UDD-FLL-W

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	17.15	18.62	17.52	18.93	19.25	11.96	13.43	12.33	13.74	14.06
	3H	19.48	20.80	19.86	21.13	21.49	13.61	14.93	13.99	15.25	15.62
	4H	20.38	21.61	20.78	21.96	22.34	14.24	15.48	14.64	15.83	16.21
	6H	21.04	22.18	21.45	22.55	22.94	14.74	15.88	15.15	16.24	16.64
	8H	21.25	22.33	21.68	22.72	23.13	14.91	15.99	15.33	16.38	16.78
	12H	21.36	22.40	21.80	22.78	23.21	15.02	16.06	15.45	16.44	16.87
4H	2H	17.17	18.40	17.57	18.75	19.13	12.68	13.91	13.08	14.26	14.64
	3H	19.58	20.61	19.99	21.01	21.41	14.52	15.55	14.94	15.95	16.35
	4H	20.51	21.43	20.95	21.85	22.29	15.27	16.19	15.70	16.61	17.05
	6H	21.29	22.09	21.75	22.54	23.00	15.88	16.69	16.34	17.13	17.59
	8H	21.56	22.31	22.02	22.75	23.22	16.10	16.85	16.57	17.30	17.76
	12H	21.74	22.41	22.22	22.88	23.36	16.26	16.93	16.75	17.41	17.88
8H	4H	20.51	21.25	20.97	21.70	22.17	15.65	16.40	16.11	16.84	17.31
	6H	21.31	21.93	21.81	22.42	22.90	16.39	17.00	16.88	17.50	17.98
	8H	21.61	22.17	22.13	22.68	23.17	16.68	17.24	17.20	17.75	18.24
	12H	21.85	22.33	22.36	22.83	23.39	16.93	17.42	17.44	17.91	18.48
12H	4H	20.49	21.15	20.97	21.63	22.11	15.71	16.37	16.19	16.85	17.33
	6H	21.29	21.84	21.80	22.35	22.84	16.47	17.03	16.99	17.54	18.03
	8H	21.62	22.11	22.13	22.60	23.17	16.83	17.32	17.34	17.81	18.38