

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: P1055289

Luminaire Tested: S122R3DR-H1005D850-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055289
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-H1005D850-X4F0-XX-UDD-F-W
Description: DEFINE 2, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

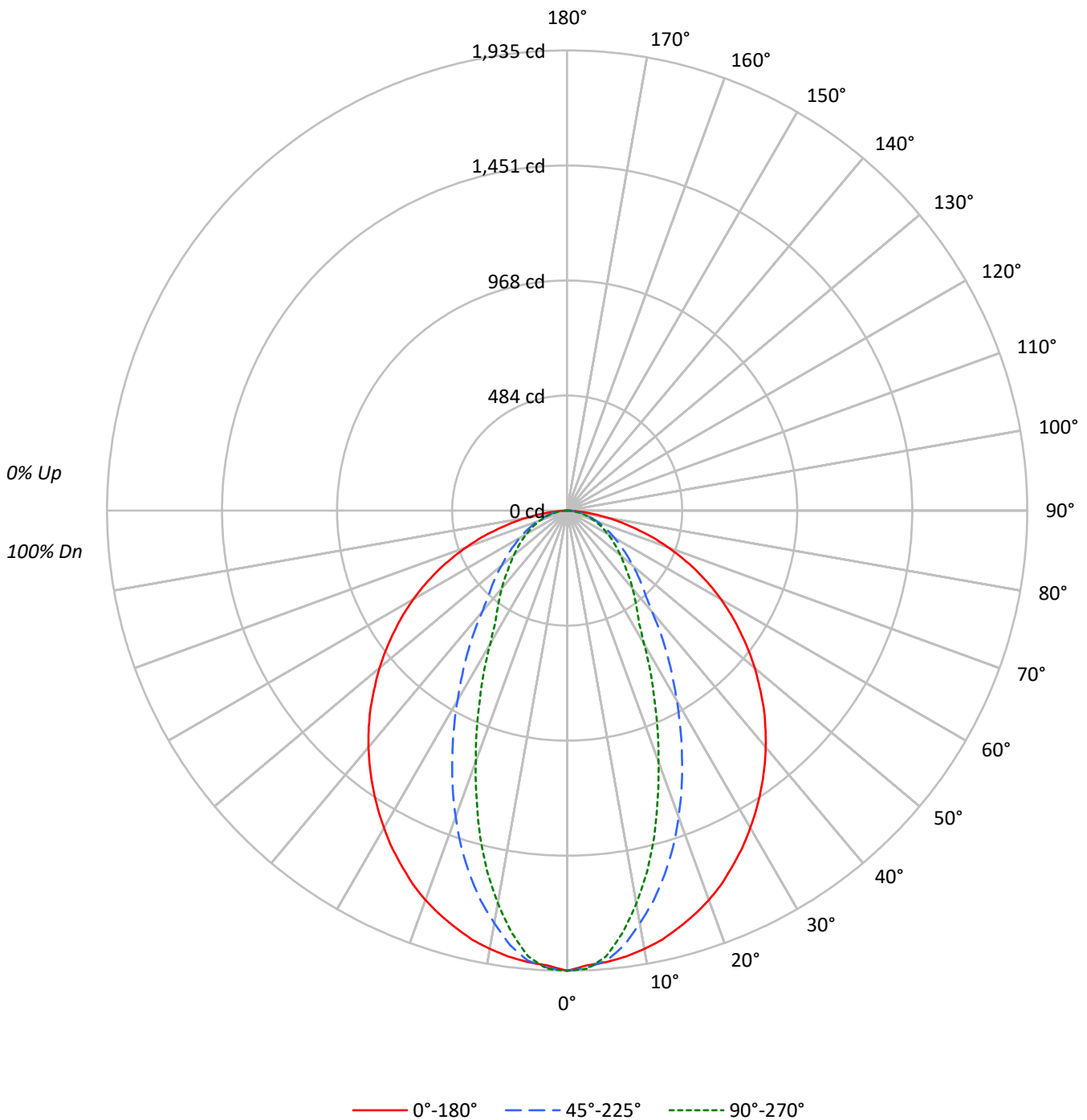
Lumens per Lamp: N/A
Luminaire Lumens: 2926.8 lumens
Efficiency: N/A
Efficacy: 80.0 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.71 / 0.9
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 36.6
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: P1055289

CATALOG NUMBER: S122R3DR-H1005D850-X4F0-XX-UDD-F-W

Luminous Intensity Polar Plot





TEST NUMBER: P1055289

CATALOG NUMBER: S122R3DR-H1005D850-X4F0-XX-UDD-F-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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	101	97	100	97	94	96	94	92	92	91	89	87
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66
4	87	76	69	63	85	75	68	62	73	66	61	71	65	61	68	64	60	58
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	54	52
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48	46
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44	42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38
9	62	50	43	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35
10	59	47	39	35	58	46	39	34	45	39	34	44	38	34	43	38	34	32

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	36660	36660	36660
5°	36247	36123	35785
10°	36012	33896	32278
15°	35606	31067	27768
20°	35132	27630	22670
25°	34430	23877	18095
30°	33695	20175	14121
35°	32931	16877	11863
40°	32132	13684	10563
45°	31297	11963	9450
50°	30376	10587	8630
55°	29338	9566	8017
60°	28324	8704	7480
65°	26983	7980	7034
70°	25005	7439	6631
75°	22143	6749	6273
80°	18886	6350	5826
85°	13021	5630	5282

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 31297 cd/sqm



TEST NUMBER: P1055289

CATALOG NUMBER: S122R3DR-H1005D850-X4F0-XX-UDD-F-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.3	6.1
10°-20°	447.7	15.3
20°-30°	551.6	18.8
30°-40°	529.3	18.1
40°-50°	456.5	15.6
50°-60°	354.2	12.1
60°-70°	242.5	8.3
70°-80°	131.7	4.5
80°-90°	36.1	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°	1176.6	40.2
0°-40°	1705.9	58.3
0°-60°	2516.6	86.0
0°-90°	2926.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2926.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1935	1935	1935	1935	1935	
5°	1906	1933	1899	1875	1882	181
15°	1815	1760	1584	1454	1416	512
25°	1647	1471	1142	932	866	759
35°	1424	1129	730	544	513	891
45°	1168	786	446	369	353	900
55°	888	472	290	251	243	795
65°	602	257	178	162	157	594
75°	302	118	92	87	86	324
85°	60	29	26	26	24	76
90°	0	0	0	0	0	



TEST NUMBER: P1055289

CATALOG NUMBER: S122R3DR-H1005D850-X4F0-XX-UDD-F-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1935.0	1935.0	1935.0	1935.0	1935.0
2.5°	1914.0	1946.3	1923.7	1923.7	1928.5
5°	1905.9	1933.4	1899.4	1875.1	1881.6
7.5°	1891.3	1910.7	1842.8	1791.0	1789.4
10°	1871.9	1873.5	1761.9	1693.9	1677.8
12.5°	1847.6	1821.8	1679.4	1577.5	1553.2
15°	1815.3	1760.3	1583.9	1454.5	1415.7
17.5°	1781.3	1697.2	1482.0	1320.2	1266.8
20°	1742.5	1621.1	1370.4	1185.9	1124.4
22.5°	1698.8	1548.3	1258.7	1056.5	991.8
25°	1647.0	1470.7	1142.2	931.9	865.6
27.5°	1596.9	1391.4	1030.6	821.9	753.9
30°	1540.2	1305.6	922.2	716.7	645.5
32.5°	1483.6	1218.3	821.9	616.4	563.0
35°	1423.8	1129.3	729.7	543.6	512.9
37.5°	1362.3	1041.9	642.3	495.1	467.6
40°	1299.2	954.6	553.3	448.2	427.1
42.5°	1234.5	868.8	491.8	409.3	389.9
45°	1168.1	786.3	446.5	368.9	352.7
47.5°	1096.9	703.8	402.9	334.9	320.3
50°	1030.6	624.5	359.2	304.2	292.8
52.5°	959.4	546.9	323.6	276.7	267.0
55°	888.2	472.4	289.6	250.8	242.7
57.5°	818.7	401.2	257.2	226.5	220.0
60°	747.5	344.6	229.7	203.9	197.4
62.5°	674.7	299.3	203.9	182.8	176.4
65°	601.9	257.2	178.0	161.8	156.9
67.5°	525.8	216.8	155.3	142.4	139.1
70°	451.4	181.2	134.3	123.0	119.7
72.5°	378.6	147.2	113.3	105.2	101.9
75°	302.5	118.1	92.2	87.4	85.7
77.5°	236.2	92.2	74.4	71.2	69.6
80°	173.1	68.0	58.2	55.0	53.4
82.5°	114.9	46.9	42.1	40.4	38.8
85°	59.9	29.1	25.9	25.9	24.3
87.5°	19.4	12.9	12.9	12.9	11.3
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1055289
 CATALOG NUMBER: S122R3DR-H1005D850-X4F0-XX-UDD-F-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	22.12	23.59	22.49	23.90	24.22	16.93	18.40	17.29	18.71	19.02
	3H	24.45	25.77	24.83	26.10	26.46	18.58	19.89	18.95	20.22	20.58
	4H	25.35	26.58	25.75	26.93	27.31	19.21	20.44	19.61	20.79	21.17
	6H	26.01	27.15	26.42	27.52	27.91	19.70	20.84	20.12	21.21	21.60
	8H	26.22	27.30	26.64	27.69	28.09	19.87	20.96	20.30	21.35	21.75
	12H	26.33	27.37	26.76	27.75	28.18	19.99	21.03	20.42	21.41	21.84
4H	2H	22.14	23.37	22.54	23.72	24.10	17.64	18.88	18.04	19.23	19.61
	3H	24.55	25.58	24.96	25.98	26.38	19.49	20.52	19.90	20.92	21.32
	4H	25.48	26.40	25.91	26.82	27.26	20.24	21.16	20.67	21.58	22.02
	6H	26.26	27.06	26.72	27.50	27.96	20.85	21.66	21.31	22.10	22.56
	8H	26.53	27.28	26.99	27.72	28.19	21.07	21.82	21.53	22.26	22.73
	12H	26.71	27.37	27.19	27.85	28.32	21.23	21.90	21.71	22.38	22.85
8H	4H	25.47	26.22	25.94	26.67	27.14	20.62	21.37	21.08	21.81	22.28
	6H	26.28	26.90	26.78	27.39	27.87	21.36	21.97	21.85	22.47	22.94
	8H	26.58	27.14	27.10	27.65	28.14	21.65	22.20	22.17	22.72	23.20
	12H	26.81	27.30	27.32	27.80	28.36	21.89	22.38	22.41	22.88	23.44
12H	4H	25.45	26.12	25.94	26.60	27.07	20.67	21.34	21.16	21.82	22.29
	6H	26.26	26.81	26.77	27.32	27.81	21.44	22.00	21.96	22.51	23.00
	8H	26.59	27.08	27.10	27.57	28.14	21.80	22.29	22.31	22.78	23.34