

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: P1055287

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

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055287
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-2)
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-B
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

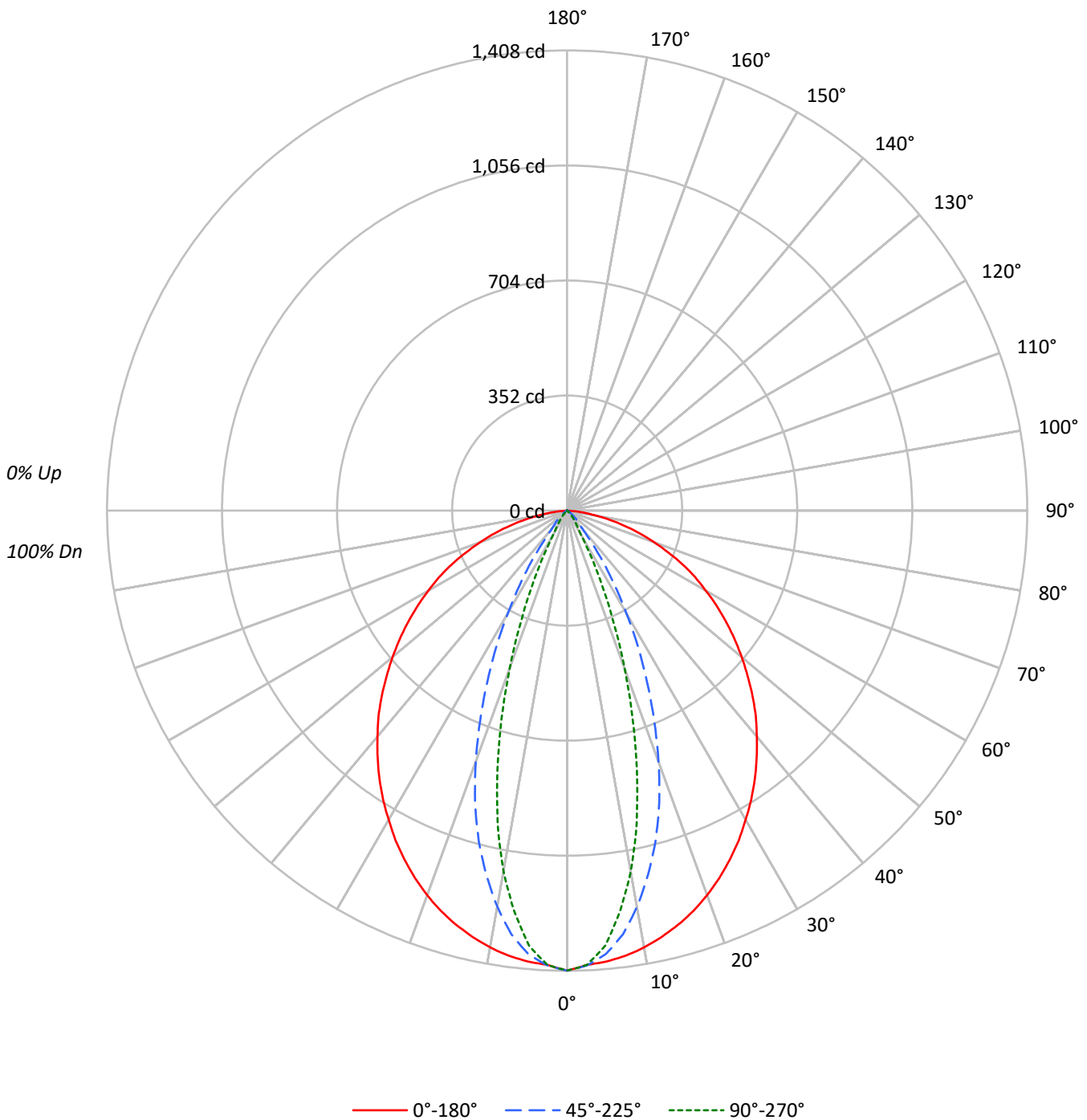
Lumens per Lamp: N/A
Luminaire Lumens: 1280.6 lumens
Efficiency: N/A
Efficacy: 35.0 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.56 / 0.7
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

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: P1055287

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

Luminous Intensity Polar Plot





TEST NUMBER: P1055287

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

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	109	106	103	110	106	104	101	102	100	98	99	97	95	95	94	92					91				
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	83					81				
3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	82	78	75					74				
4	92	83	77	72	90	82	76	71	80	75	70	78	73	70	76	72	69					67				
5	87	77	70	65	85	76	70	65	74	69	64	72	68	64	71	66	63					61				
6	82	72	65	60	80	71	64	59	69	63	59	68	63	59	66	62	58					56				
7	77	67	60	55	76	66	59	55	65	59	55	63	58	54	62	57	54					52				
8	73	62	56	51	72	62	55	51	61	55	51	60	54	50	59	54	50					49				
9	70	59	52	48	68	58	52	47	57	51	47	56	51	47	55	50	47					45				
10	66	55	49	45	65	55	49	44	54	48	44	53	48	44	52	48	44					43				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	26668	26668	26668
5°	26338	25909	25416
10°	26114	23686	21570
15°	25736	20501	16152
20°	25249	16472	10341
25°	24621	12074	5310
30°	23892	7893	1735
35°	23163	4378	1011
40°	22328	1761	561
45°	21502	1171	217
50°	20553	669	94
55°	19614	320	53
60°	18575	121	0
65°	17479	72	0
70°	15682	89	0
75°	13498	117	0
80°	10234	0	0
85°	4217	348	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 21502 cd/sqm



TEST NUMBER: P1055287

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.2	9.9
10°-20°	293.2	22.9
20°-30°	297.7	23.2
30°-40°	223.4	17.4
40°-50°	156.4	12.2
50°-60°	95.7	7.5
60°-70°	57.0	4.5
70°-80°	26.3	2.1
80°-90°	4.7	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°	717.1	56.0
0°-40°	940.4	73.4
0°-60°	1192.6	93.1
0°-90°	1280.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1280.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1408	1408	1408	1408	1408	
5°	1385	1398	1362	1336	1336	131
15°	1312	1241	1045	885	824	370
25°	1178	971	578	330	254	542
35°	1002	652	189	57	44	626
45°	802	345	44	13	8	619
55°	594	105	10	3	2	531
65°	390	31	2	2	0	384
75°	184	3	2	2	0	196
85°	19	0	2	2	0	33
90°	0	0	0	0	0	



TEST NUMBER: P1055287

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

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1407.6	1407.6	1407.6	1407.6	1407.6
2.5°	1391.4	1412.4	1393.0	1389.8	1391.4
5°	1384.9	1397.9	1362.3	1336.4	1336.4
7.5°	1373.6	1373.6	1307.3	1253.9	1237.7
10°	1357.4	1339.6	1231.2	1145.5	1121.2
12.5°	1336.4	1294.3	1142.2	1020.9	982.1
15°	1312.1	1240.9	1045.2	885.0	823.5
17.5°	1284.6	1181.1	936.8	737.8	666.6
20°	1252.3	1116.4	817.0	587.3	512.9
22.5°	1216.7	1045.2	695.7	453.0	373.7
25°	1177.8	970.7	577.6	330.1	254.0
27.5°	1137.4	893.1	469.2	226.5	155.3
30°	1092.1	812.2	360.8	134.3	79.3
32.5°	1048.4	734.5	270.2	72.8	58.2
35°	1001.5	652.0	189.3	56.6	43.7
37.5°	952.9	574.4	116.5	42.1	32.4
40°	902.8	495.1	71.2	30.7	22.7
42.5°	854.3	420.7	56.6	21.0	14.6
45°	802.5	344.6	43.7	12.9	8.1
47.5°	749.1	275.0	32.4	8.1	4.9
50°	697.3	213.6	22.7	4.9	3.2
52.5°	645.5	156.9	14.6	3.2	1.6
55°	593.8	105.2	9.7	3.2	1.6
57.5°	542.0	74.4	6.5	1.6	1.6
60°	490.2	58.2	3.2	1.6	0.0
62.5°	441.7	45.3	3.2	1.6	1.6
65°	389.9	30.7	1.6	1.6	0.0
67.5°	334.9	19.4	1.6	1.6	0.0
70°	283.1	11.3	1.6	1.6	0.0
72.5°	233.0	6.5	1.6	1.6	0.0
75°	184.4	3.2	1.6	1.6	0.0
77.5°	137.5	1.6	0.0	1.6	0.0
80°	93.8	0.0	0.0	1.6	0.0
82.5°	55.0	0.0	0.0	1.6	0.0
85°	19.4	0.0	1.6	1.6	0.0
87.5°	0.0	0.0	1.6	1.6	0.0
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1055287
 CATALOG NUMBER: S122R3DR-H1005D850-X4F0-XX-UDD-F-B

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	17.62	18.88	17.98	19.19	19.51	0.00	0.00	0.00	0.00	0.00
	3H	21.36	22.48	21.74	22.81	23.17	0.00	0.00	0.00	0.00	0.00
	4H	22.67	23.71	23.07	24.06	24.45	0.00	0.00	0.00	0.00	0.00
	6H	23.53	24.48	23.94	24.85	25.25	0.00	0.00	0.00	0.00	0.00
	8H	23.74	24.64	24.17	25.03	25.44	0.00	0.00	0.00	0.00	0.00
	12H	23.80	24.67	24.24	25.05	25.48	0.00	0.00	0.00	0.00	0.00
4H	2H	17.37	18.41	17.78	18.76	19.15	0.00	0.00	0.00	0.00	0.00
	3H	21.11	21.97	21.53	22.37	22.78	0.00	0.00	0.00	0.00	0.00
	4H	22.41	23.17	22.85	23.59	24.04	0.00	0.00	0.00	0.00	0.00
	6H	23.33	23.98	23.79	24.43	24.90	0.00	0.00	0.00	0.00	0.00
	8H	23.59	24.20	24.06	24.65	25.12	0.00	0.00	0.00	0.00	0.00
	12H	23.69	24.23	24.18	24.71	25.19	0.00	0.00	0.00	0.00	0.00
8H	4H	22.26	22.88	22.74	23.32	23.80	0.00	0.00	0.00	0.00	0.00
	6H	23.17	23.66	23.67	24.16	24.64	0.00	0.00	0.00	0.00	0.00
	8H	23.42	23.87	23.95	24.38	24.88	0.00	0.00	0.00	0.00	0.00
	12H	23.54	23.93	24.06	24.43	25.00	0.00	0.00	0.00	0.00	0.00
12H	4H	22.22	22.75	22.70	23.24	23.71	0.00	0.00	0.00	0.00	0.00
	6H	23.10	23.55	23.63	24.06	24.56	0.00	0.00	0.00	0.00	0.00
	8H	23.38	23.77	23.90	24.26	24.84	0.00	0.00	0.00	0.00	0.00