

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: P1055368

Luminaire Tested: S122R3DR-H675D850-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055368
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-H675D850-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

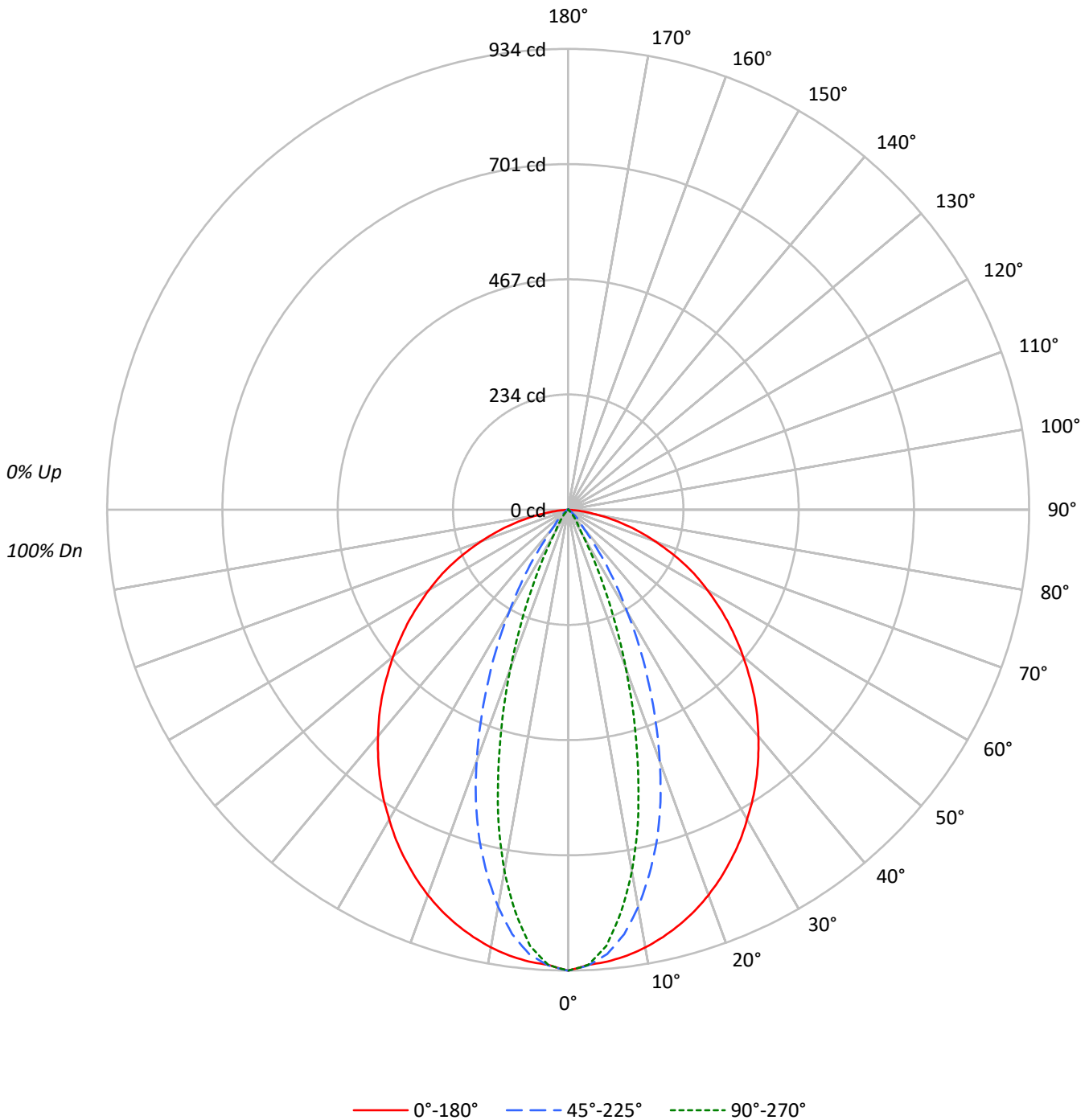
Lumens per Lamp: N/A
Luminaire Lumens: 850.1 lumens
Efficiency: N/A
Efficacy: 35.7 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.56 / 0.7
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
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

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Luminous Intensity Polar Plot





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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	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	62	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	47	44	43

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17701	17701	17701
5°	17483	17196	16871
10°	17334	15723	14317
15°	17084	13608	10721
20°	16758	10934	6863
25°	16343	8015	3524
30°	15858	5239	1151
35°	15376	2905	671
40°	14822	1170	371
45°	14273	777	145
50°	13644	442	62
55°	13018	211	36
60°	12330	80	0
65°	11602	49	0
70°	10409	61	0
75°	8960	81	0
80°	6797	0	0
85°	2804	239	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 14273 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.8	9.9
10°-20°	194.6	22.9
20°-30°	197.6	23.2
30°-40°	148.3	17.4
40°-50°	103.8	12.2
50°-60°	63.5	7.5
60°-70°	37.9	4.5
70°-80°	17.5	2.1
80°-90°	3.1	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°	476.0	56.0
0°-40°	624.2	73.4
0°-60°	791.6	93.1
0°-90°	850.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	850.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	934	934	934	934	934	
5°	919	928	904	887	887	87
15°	871	824	694	587	547	245
25°	782	644	383	219	169	360
35°	665	433	126	38	29	415
45°	533	229	29	9	5	411
55°	394	70	6	2	1	352
65°	259	20	1	1	0	255
75°	122	2	1	1	0	130
85°	13	0	1	1	0	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	934.3	934.3	934.3	934.3	934.3
2.5°	923.6	937.5	924.7	922.5	923.6
5°	919.3	927.9	904.2	887.1	887.1
7.5°	911.8	911.8	867.7	832.3	821.6
10°	901.0	889.2	817.3	760.3	744.2
12.5°	887.1	859.1	758.2	677.6	651.9
15°	871.0	823.7	693.8	587.4	546.6
17.5°	852.7	784.0	621.8	489.7	442.5
20°	831.2	741.0	542.3	389.8	340.4
22.5°	807.6	693.8	461.8	300.7	248.1
25°	781.8	644.4	383.4	219.1	168.6
27.5°	755.0	592.8	311.4	150.4	103.1
30°	724.9	539.1	239.5	89.1	52.6
32.5°	695.9	487.6	179.3	48.3	38.7
35°	664.8	432.8	125.6	37.6	29.0
37.5°	632.5	381.2	77.3	27.9	21.5
40°	599.3	328.6	47.3	20.4	15.0
42.5°	567.0	279.2	37.6	14.0	9.7
45°	532.7	228.7	29.0	8.6	5.4
47.5°	497.2	182.6	21.5	5.4	3.2
50°	462.9	141.8	15.0	3.2	2.1
52.5°	428.5	104.2	9.7	2.1	1.1
55°	394.1	69.8	6.4	2.1	1.1
57.5°	359.8	49.4	4.3	1.1	1.1
60°	325.4	38.7	2.1	1.1	0.0
62.5°	293.2	30.1	2.1	1.1	1.1
65°	258.8	20.4	1.1	1.1	0.0
67.5°	222.3	12.9	1.1	1.1	0.0
70°	187.9	7.5	1.1	1.1	0.0
72.5°	154.6	4.3	1.1	1.1	0.0
75°	122.4	2.1	1.1	1.1	0.0
77.5°	91.3	1.1	0.0	1.1	0.0
80°	62.3	0.0	0.0	1.1	0.0
82.5°	36.5	0.0	0.0	1.1	0.0
85°	12.9	0.0	1.1	1.1	0.0
87.5°	0.0	0.0	1.1	1.1	0.0
90°	0.0	0.0	0.0	0.0	0.0



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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	16.20	17.46	16.56	17.77	18.08	0.00	0.00	0.00	0.00	0.00
	3H	19.94	21.05	20.32	21.38	21.75	0.00	0.00	0.00	0.00	0.00
	4H	21.25	22.29	21.65	22.64	23.02	0.00	0.00	0.00	0.00	0.00
	6H	22.10	23.06	22.52	23.43	23.82	0.00	0.00	0.00	0.00	0.00
	8H	22.32	23.22	22.75	23.61	24.02	0.00	0.00	0.00	0.00	0.00
	12H	22.38	23.24	22.81	23.63	24.06	0.00	0.00	0.00	0.00	0.00
4H	2H	15.95	16.99	16.35	17.34	17.73	0.00	0.00	0.00	0.00	0.00
	3H	19.69	20.54	20.10	20.95	21.35	0.00	0.00	0.00	0.00	0.00
	4H	20.99	21.75	21.42	22.17	22.61	0.00	0.00	0.00	0.00	0.00
	6H	21.90	22.56	22.37	23.01	23.48	0.00	0.00	0.00	0.00	0.00
	8H	22.16	22.78	22.63	23.22	23.69	0.00	0.00	0.00	0.00	0.00
	12H	22.27	22.80	22.75	23.29	23.76	0.00	0.00	0.00	0.00	0.00
8H	4H	20.84	21.45	21.31	21.90	22.37	0.00	0.00	0.00	0.00	0.00
	6H	21.74	22.24	22.25	22.74	23.22	0.00	0.00	0.00	0.00	0.00
	8H	22.00	22.44	22.52	22.96	23.45	0.00	0.00	0.00	0.00	0.00
	12H	22.12	22.51	22.63	23.00	23.58	0.00	0.00	0.00	0.00	0.00
12H	4H	20.79	21.33	21.28	21.81	22.29	0.00	0.00	0.00	0.00	0.00
	6H	21.68	22.12	22.20	22.64	23.13	0.00	0.00	0.00	0.00	0.00
	8H	21.96	22.34	22.47	22.84	23.41	0.00	0.00	0.00	0.00	0.00