

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: P1055393

Luminaire Tested: S122R3DR-H865D840-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055393  
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-H865D840-X4F0-XX-UDD-F-S  
Description: DEFINE 2, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

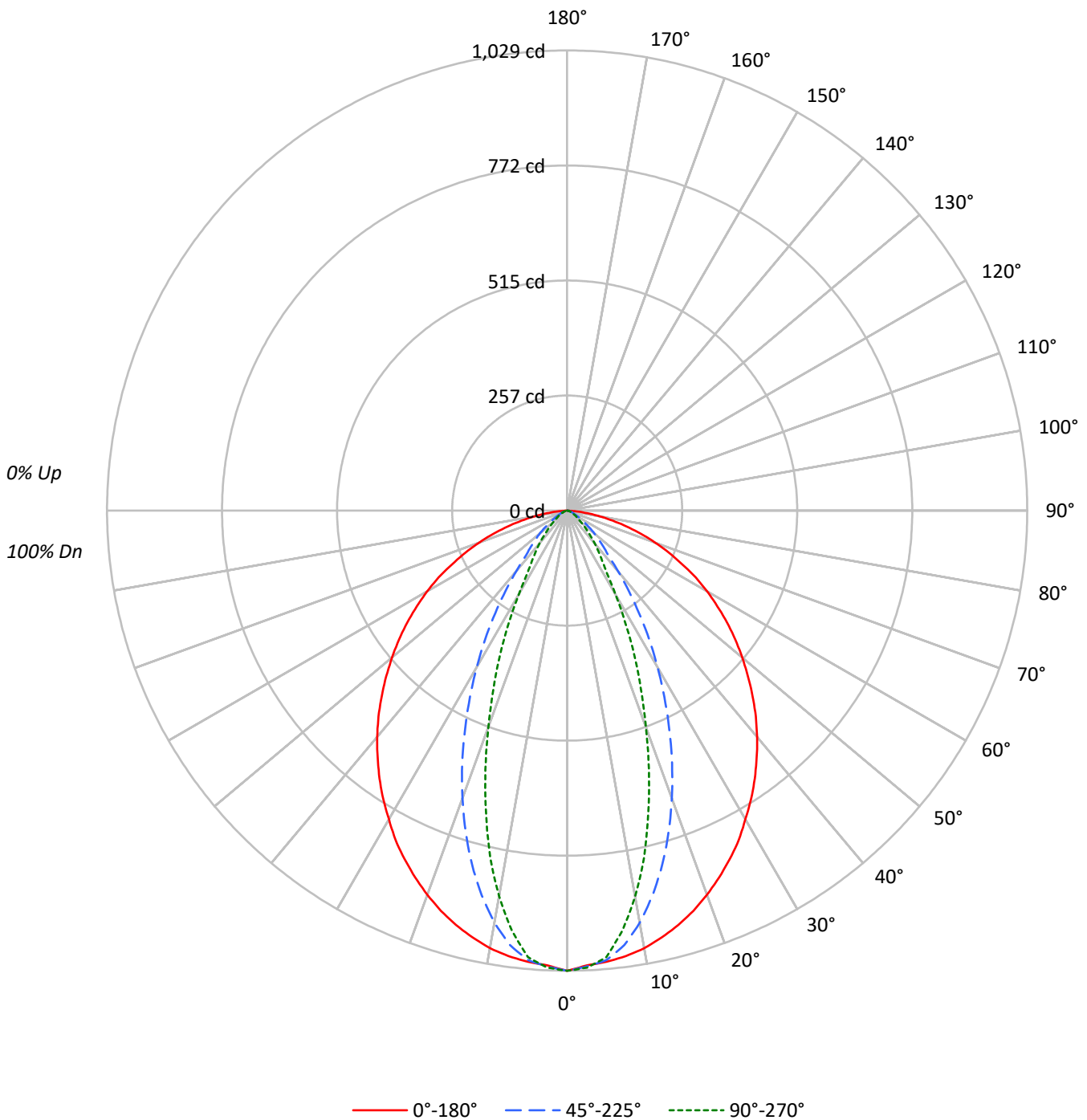
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1179.4 lumens  
Efficiency: N/A  
Efficacy: 38.2 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): 30.9  
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

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

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	19497	19497	19497
5°	19260	19187	19068
10°	19119	18003	16862
15°	18824	16103	13753
20°	18434	13807	10375
25°	17980	11309	7409
30°	17438	8829	4719
35°	16919	6476	3150
40°	16345	4368	2369
45°	15712	3076	1691
50°	15056	2343	1191
55°	14415	1625	875
60°	13717	1099	716
65°	12723	793	565
70°	11599	631	487
75°	10065	556	366
80°	7976	415	415
85°	4391	543	283

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 15712 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.1	8.0
10°-20°	230.9	19.6
20°-30°	263.8	22.4
30°-40°	223.7	19.0
40°-50°	166.9	14.2
50°-60°	107.9	9.1
60°-70°	60.2	5.1
70°-80°	26.4	2.2
80°-90°	5.5	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°	588.8	49.9
0°-40°	812.6	68.9
0°-60°	1087.4	92.2
0°-90°	1179.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1179.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1029	1029	1029	1029	1029	
5°	1013	1025	1009	999	1003	96
15°	960	936	821	734	701	270
25°	860	759	541	396	354	396
35°	732	551	280	153	136	457
45°	586	348	115	74	63	452
55°	436	165	49	30	26	390
65°	284	60	18	14	13	282
75°	138	13	8	6	5	147
85°	20	1	2	1	1	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1029.1	1029.1	1029.1	1029.1	1029.1
2.5°	1017.8	1032.9	1020.3	1020.3	1022.8
5°	1012.7	1025.3	1008.9	998.8	1002.6
7.5°	1005.1	1014.0	979.9	949.7	947.1
10°	993.8	997.6	935.8	889.1	876.5
12.5°	977.4	968.6	881.6	816.0	794.5
15°	959.7	935.8	821.0	734.0	701.2
17.5°	938.3	895.4	754.2	648.2	607.9
20°	914.3	853.8	684.8	558.7	514.6
22.5°	887.9	807.1	612.9	474.2	430.1
25°	860.1	759.2	541.0	396.0	354.4
27.5°	831.1	708.8	470.4	325.4	280.0
30°	797.1	657.1	403.6	257.3	215.7
32.5°	765.5	602.8	341.8	199.3	164.0
35°	731.5	551.1	280.0	152.6	136.2
37.5°	696.2	499.4	225.7	128.6	114.8
40°	660.9	447.7	176.6	108.5	95.8
42.5°	624.3	397.3	136.2	90.8	78.2
45°	586.4	348.1	114.8	74.4	63.1
47.5°	548.6	298.9	95.8	59.3	50.4
50°	510.8	252.2	79.5	46.7	40.4
52.5°	474.2	208.1	63.1	37.8	32.8
55°	436.4	165.2	49.2	30.3	26.5
57.5°	398.5	128.6	37.8	25.2	22.7
60°	362.0	97.1	29.0	20.2	18.9
62.5°	324.1	78.2	22.7	16.4	15.1
65°	283.8	60.5	17.7	13.9	12.6
67.5°	247.2	44.1	13.9	11.4	10.1
70°	209.4	30.3	11.4	10.1	8.8
72.5°	172.8	18.9	8.8	7.6	7.6
75°	137.5	12.6	7.6	6.3	5.0
77.5°	104.7	7.6	5.0	5.0	3.8
80°	73.1	5.0	3.8	3.8	3.8
82.5°	45.4	3.8	2.5	2.5	2.5
85°	20.2	1.3	2.5	1.3	1.3
87.5°	3.8	1.3	1.3	1.3	1.3
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	18.57	19.89	18.94	20.20	20.52	4.88	6.20	5.24	6.51	6.82
	3H	21.04	22.21	21.42	22.54	22.91	5.73	6.90	6.11	7.23	7.60
	4H	22.00	23.09	22.40	23.44	23.82	6.00	7.10	6.41	7.45	7.83
	6H	22.68	23.69	23.10	24.06	24.45	6.20	7.20	6.61	7.57	7.96
	8H	22.88	23.83	23.31	24.22	24.63	6.27	7.22	6.70	7.61	8.02
	12H	22.96	23.87	23.39	24.25	24.68	6.30	7.20	6.73	7.59	8.02
4H	2H	18.35	19.45	18.76	19.80	20.18	5.45	6.54	5.86	6.90	7.28
	3H	20.84	21.73	21.25	22.14	22.54	6.49	7.38	6.90	7.79	8.19
	4H	21.78	22.58	22.22	23.00	23.45	6.85	7.65	7.29	8.07	8.52
	6H	22.54	23.23	23.00	23.68	24.14	7.15	7.84	7.61	8.28	8.75
	8H	22.78	23.43	23.25	23.87	24.34	7.24	7.89	7.71	8.34	8.81
	12H	22.91	23.48	23.40	23.96	24.44	7.29	7.86	7.78	8.34	8.82
8H	4H	21.65	22.30	22.12	22.74	23.21	7.22	7.87	7.69	8.32	8.79
	6H	22.39	22.91	22.89	23.41	23.89	7.59	8.11	8.09	8.61	9.09
	8H	22.63	23.10	23.16	23.62	24.11	7.72	8.19	8.24	8.71	9.20
	12H	22.78	23.20	23.30	23.69	24.27	7.81	8.22	8.32	8.72	9.29
12H	4H	21.61	22.18	22.09	22.66	23.13	7.35	7.91	7.83	8.40	8.87
	6H	22.33	22.80	22.85	23.32	23.81	7.70	8.18	8.23	8.69	9.18
	8H	22.59	23.01	23.11	23.50	24.07	7.88	8.30	8.40	8.79	9.36