

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: P1055312

Luminaire Tested: S122R3DR-H290D840-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055312  
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-H290D840-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: -

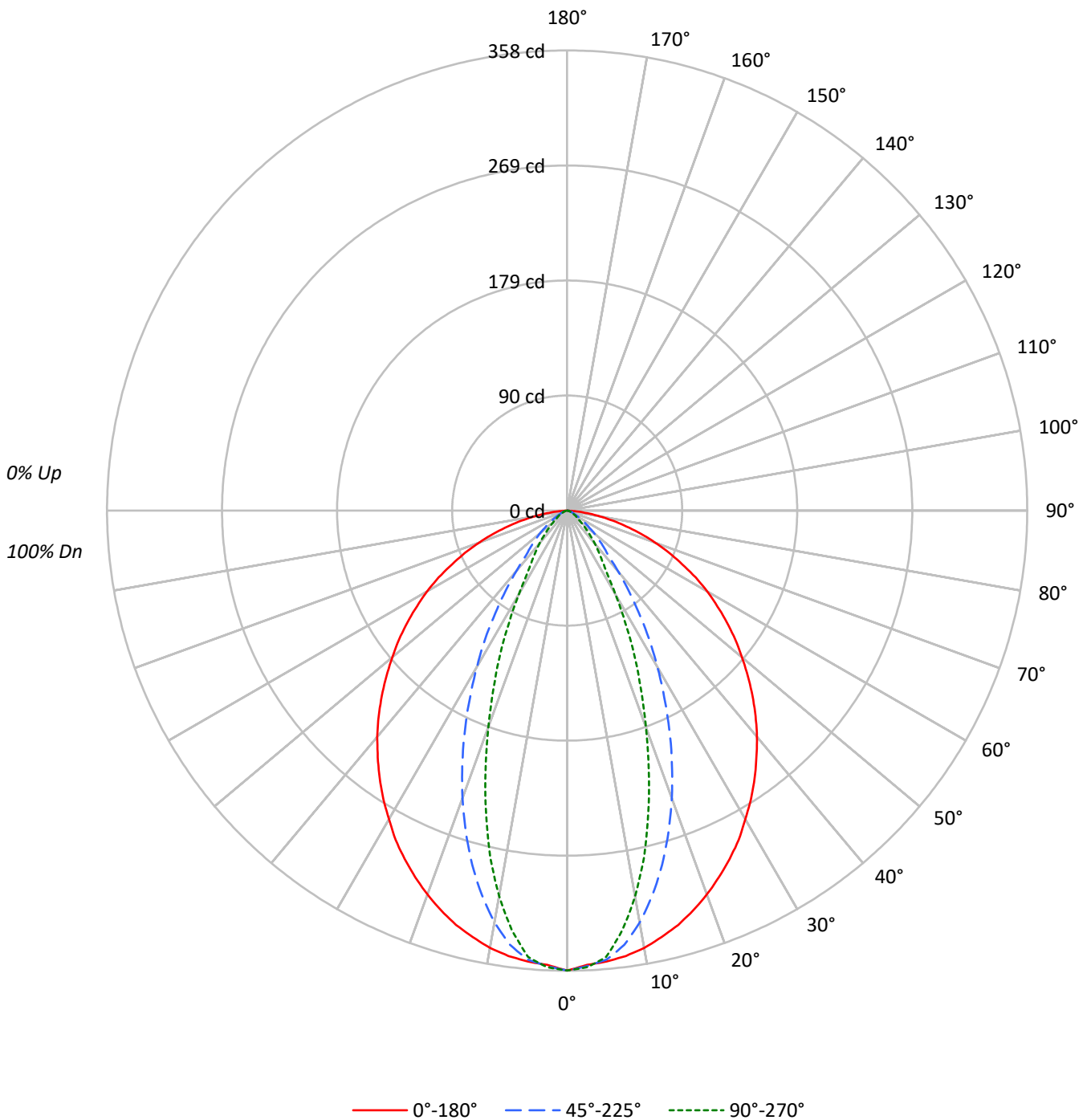
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 410.0 lumens  
Efficiency: N/A  
Efficacy: 35.0 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): 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

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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°	6779	6779	6779
5°	6696	6672	6630
10°	6647	6258	5862
15°	6545	5598	4782
20°	6409	4801	3607
25°	6250	3932	2575
30°	6062	3069	1641
35°	5882	2250	1096
40°	5683	1519	824
45°	5463	1069	587
50°	5235	813	413
55°	5011	565	304
60°	4767	383	250
65°	4425	273	197
70°	4033	216	172
75°	3499	190	132
80°	2771	142	142
85°	1522	196	87

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5463 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	32.7	8.0
10°-20°	80.3	19.6
20°-30°	91.7	22.4
30°-40°	77.8	19.0
40°-50°	58.0	14.2
50°-60°	37.5	9.1
60°-70°	20.9	5.1
70°-80°	9.2	2.2
80°-90°	1.9	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°	204.7	49.9
0°-40°	282.5	68.9
0°-60°	378.0	92.2
0°-90°	410.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	410.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	358	358	358	358	358	
5°	352	356	351	347	349	33
15°	334	325	285	255	244	94
25°	299	264	188	138	123	138
35°	254	192	97	53	47	159
45°	204	121	40	26	22	157
55°	152	57	17	10	9	136
65°	99	21	6	5	4	98
75°	48	4	3	2	2	51
85°	7	0	1	0	0	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	357.8	357.8	357.8	357.8	357.8
2.5°	353.8	359.1	354.7	354.7	355.6
5°	352.1	356.5	350.8	347.3	348.6
7.5°	349.5	352.5	340.7	330.2	329.3
10°	345.5	346.8	325.3	309.1	304.7
12.5°	339.8	336.7	306.5	283.7	276.2
15°	333.7	325.3	285.4	255.2	243.8
17.5°	326.2	311.3	262.2	225.4	211.3
20°	317.9	296.8	238.1	194.2	178.9
22.5°	308.7	280.6	213.1	164.9	149.5
25°	299.0	264.0	188.1	137.7	123.2
27.5°	289.0	246.4	163.6	113.1	97.3
30°	277.1	228.4	140.3	89.4	75.0
32.5°	266.2	209.6	118.8	69.3	57.0
35°	254.3	191.6	97.3	53.1	47.4
37.5°	242.0	173.6	78.5	44.7	39.9
40°	229.8	155.7	61.4	37.7	33.3
42.5°	217.0	138.1	47.4	31.6	27.2
45°	203.9	121.0	39.9	25.9	21.9
47.5°	190.7	103.9	33.3	20.6	17.5
50°	177.6	87.7	27.6	16.2	14.0
52.5°	164.9	72.3	21.9	13.2	11.4
55°	151.7	57.4	17.1	10.5	9.2
57.5°	138.6	44.7	13.2	8.8	7.9
60°	125.8	33.8	10.1	7.0	6.6
62.5°	112.7	27.2	7.9	5.7	5.3
65°	98.7	21.0	6.1	4.8	4.4
67.5°	85.9	15.3	4.8	3.9	3.5
70°	72.8	10.5	3.9	3.5	3.1
72.5°	60.1	6.6	3.1	2.6	2.6
75°	47.8	4.4	2.6	2.2	1.8
77.5°	36.4	2.6	1.8	1.8	1.3
80°	25.4	1.8	1.3	1.3	1.3
82.5°	15.8	1.3	0.9	0.9	0.9
85°	7.0	0.4	0.9	0.4	0.4
87.5°	1.3	0.4	0.4	0.4	0.4
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	14.90	16.22	15.27	16.53	16.85	1.23	2.55	1.60	2.86	3.18
	3H	17.37	18.54	17.75	18.87	19.23	2.07	3.24	2.45	3.57	3.94
	4H	18.33	19.42	18.73	19.77	20.15	2.35	3.44	2.75	3.79	4.17
	6H	19.01	20.02	19.43	20.39	20.78	2.54	3.54	2.95	3.91	4.30
	8H	19.21	20.16	19.64	20.55	20.95	2.61	3.56	3.04	3.95	4.36
	12H	19.29	20.20	19.72	20.58	21.01	2.63	3.54	3.07	3.93	4.36
4H	2H	14.68	15.78	15.09	16.13	16.51	1.79	2.88	2.19	3.23	3.62
	3H	17.17	18.06	17.58	18.47	18.87	2.81	3.71	3.23	4.11	4.52
	4H	18.11	18.91	18.55	19.33	19.77	3.19	3.99	3.62	4.41	4.85
	6H	18.87	19.56	19.33	20.00	20.47	3.48	4.17	3.94	4.61	5.08
	8H	19.11	19.75	19.58	20.20	20.67	3.58	4.22	4.05	4.67	5.14
	12H	19.24	19.81	19.73	20.29	20.76	3.62	4.19	4.11	4.67	5.15
8H	4H	17.98	18.62	18.45	19.07	19.54	3.56	4.20	4.03	4.65	5.12
	6H	18.72	19.24	19.22	19.74	20.22	3.92	4.44	4.42	4.94	5.42
	8H	18.96	19.43	19.49	19.95	20.44	4.06	4.53	4.59	5.05	5.54
	12H	19.11	19.53	19.63	20.02	20.59	4.14	4.55	4.65	5.05	5.62
12H	4H	17.93	18.50	18.42	18.99	19.46	3.68	4.25	4.17	4.73	5.21
	6H	18.66	19.13	19.18	19.64	20.14	4.04	4.51	4.56	5.02	5.52
	8H	18.92	19.34	19.44	19.83	20.40	4.22	4.64	4.74	5.13	5.70