

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: P1056015

Luminaire Tested: S124R3DR-S350D840-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1056015  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-7)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124R3DR-S350D840-X4F0-XX-UDD-F-W  
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

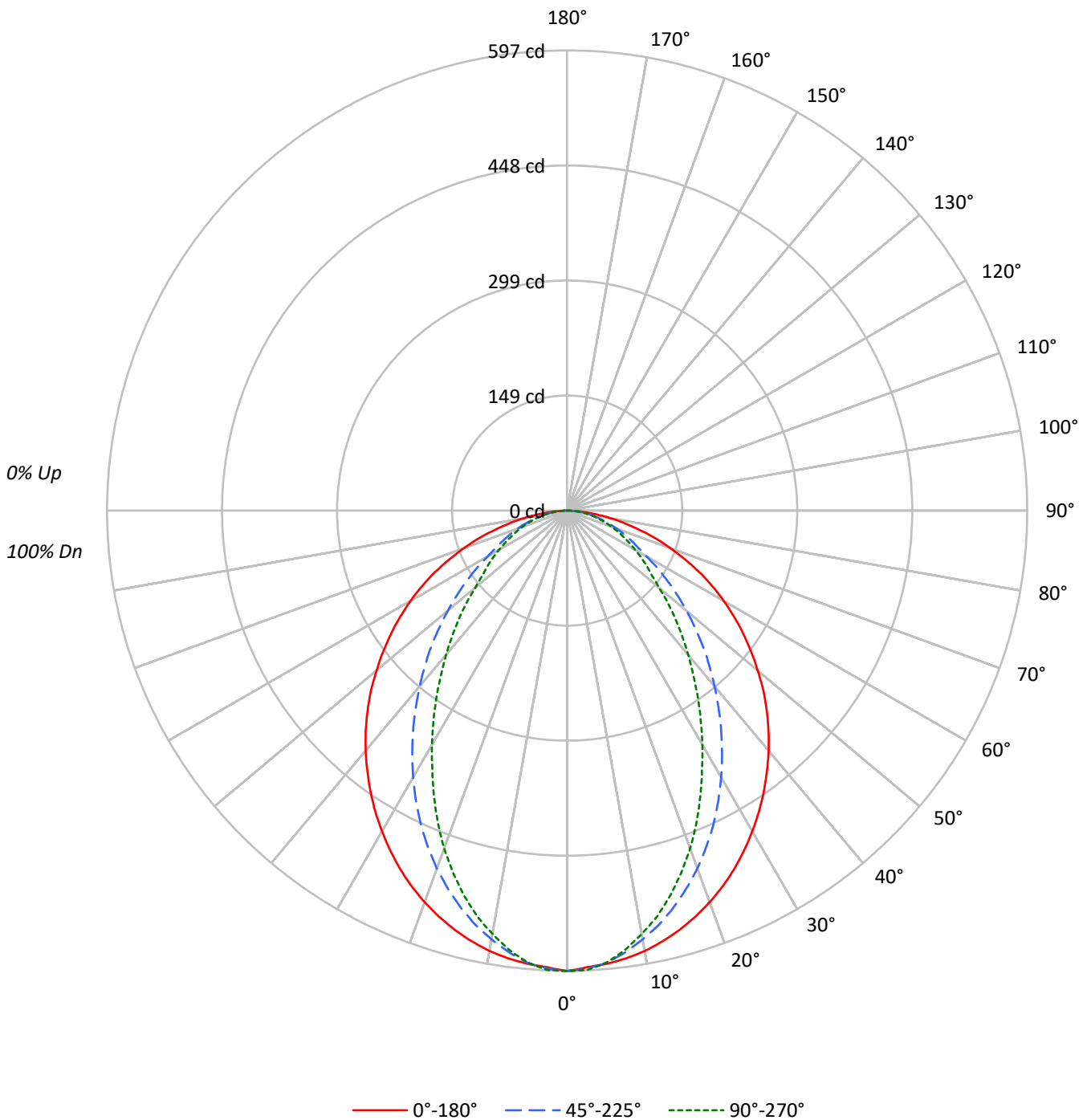
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1189.8 lumens  
Efficiency: N/A  
Efficacy: 94.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12  
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 12.6  
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

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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	110	105	102	98	107	103	100	97	99	96	93	95	93	91	92	90	88	86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	76	73
3	93	83	75	69	90	81	74	69	79	73	68	76	71	67	73	69	65	63
4	85	74	66	60	83	73	65	60	71	64	59	68	63	58	66	61	57	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49
6	73	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39
8	64	51	43	38	62	51	43	38	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29

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

	0°	45°	90°
0°	5282	5282	5282
5°	5239	5227	5224
10°	5209	5071	5008
15°	5154	4881	4731
20°	5087	4649	4388
25°	5005	4382	3988
30°	4904	4080	3581
35°	4801	3763	3188
40°	4693	3435	2821
45°	4578	3116	2478
50°	4437	2781	2140
55°	4302	2446	1945
60°	4150	2099	1804
65°	3962	1904	1682
70°	3681	1760	1590
75°	3334	1623	1503
80°	2907	1502	1410
85°	2232	1380	1288

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4578 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	55.6	4.7
10°-20°	150.9	12.7
20°-30°	208.9	17.6
30°-40°	224.2	18.8
40°-50°	203.9	17.1
50°-60°	160.5	13.5
60°-70°	109.9	9.2
70°-80°	59.2	5.0
80°-90°	16.7	1.4
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°	415.4	34.9
0°-40°	639.5	53.8
0°-60°	1004.0	84.4
0°-90°	1189.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1189.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	597	597	597	597	597	
5°	590	597	589	586	589	56
15°	563	557	533	519	517	159
25°	513	492	449	417	409	236
35°	445	410	349	306	295	278
45°	366	320	249	206	198	282
55°	279	226	159	128	126	250
65°	189	135	91	81	80	187
75°	98	59	48	44	44	104
85°	22	15	14	13	13	26
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	597.4	597.4	597.4	597.4	597.4
2.5°	593.0	600.0	594.7	595.6	596.5
5°	590.3	596.9	589.0	585.9	588.6
7.5°	585.9	590.3	578.0	572.3	574.9
10°	580.2	581.1	564.8	556.5	557.8
12.5°	572.3	570.1	550.3	538.5	539.3
15°	563.1	556.9	533.2	518.7	516.9
17.5°	552.5	542.4	514.3	495.8	492.3
20°	540.7	527.0	494.1	470.3	466.4
22.5°	527.5	509.9	472.1	443.9	438.2
25°	513.0	491.9	449.2	416.7	408.8
27.5°	497.1	472.5	424.6	389.0	378.9
30°	480.4	452.3	399.6	361.3	350.8
32.5°	463.3	431.6	374.1	333.6	322.6
35°	444.8	410.1	348.6	306.4	295.4
37.5°	425.9	387.7	322.6	280.0	268.6
40°	406.6	365.3	297.6	253.6	244.4
42.5°	386.8	342.4	273.0	229.0	220.7
45°	366.1	319.6	249.2	206.2	198.2
47.5°	345.0	296.3	225.1	184.6	177.1
50°	322.6	273.0	202.2	163.5	155.6
52.5°	301.1	249.2	180.2	142.9	138.9
55°	279.1	225.9	158.7	127.9	126.2
57.5°	257.1	202.6	138.9	116.0	114.3
60°	234.7	179.8	118.7	103.7	102.0
62.5°	212.3	157.4	103.7	91.9	91.0
65°	189.4	135.4	91.0	80.9	80.4
67.5°	165.3	114.3	79.6	71.2	70.8
70°	142.4	93.2	68.1	61.5	61.5
72.5°	120.9	73.8	57.6	52.3	52.3
75°	97.6	59.3	47.5	43.5	44.0
77.5°	76.9	46.6	38.2	35.6	35.6
80°	57.1	34.7	29.5	27.3	27.7
82.5°	38.7	24.2	21.1	19.8	19.8
85°	22.0	14.9	13.6	12.7	12.7
87.5°	7.9	7.0	6.6	5.7	6.2
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	16.92	18.45	17.29	18.76	19.08	12.70	14.22	13.06	14.54	14.85
	3H	18.70	20.07	19.08	20.40	20.76	14.31	15.68	14.69	16.01	16.37
	4H	19.37	20.66	19.77	21.00	21.38	14.94	16.23	15.34	16.58	16.96
	6H	19.88	21.07	20.29	21.43	21.83	15.44	16.63	15.85	17.00	17.39
	8H	20.04	21.17	20.47	21.56	21.96	15.61	16.75	16.04	17.14	17.54
	12H	20.14	21.23	20.57	21.61	22.04	15.73	16.82	16.17	17.20	17.63
4H	2H	17.02	18.30	17.42	18.65	19.03	13.42	14.70	13.82	15.05	15.43
	3H	18.96	20.03	19.37	20.43	20.83	15.23	16.30	15.64	16.70	17.10
	4H	19.72	20.68	20.15	21.10	21.54	15.96	16.93	16.40	17.34	17.78
	6H	20.35	21.19	20.81	21.64	22.09	16.58	17.42	17.04	17.86	18.32
	8H	20.57	21.36	21.04	21.80	22.27	16.80	17.58	17.26	18.03	18.49
	12H	20.73	21.43	21.21	21.91	22.38	16.96	17.66	17.45	18.14	18.61
8H	4H	19.78	20.56	20.24	21.00	21.47	16.35	17.14	16.82	17.58	18.05
	6H	20.47	21.12	20.97	21.61	22.09	17.08	17.73	17.58	18.22	18.70
	8H	20.74	21.33	21.26	21.83	22.32	17.37	17.96	17.89	18.47	18.95
	12H	20.96	21.48	21.47	21.97	22.53	17.62	18.13	18.13	18.62	19.19
12H	4H	19.77	20.47	20.25	20.95	21.42	16.41	17.11	16.89	17.59	18.06
	6H	20.47	21.05	20.98	21.56	22.05	17.17	17.75	17.68	18.26	18.75
	8H	20.78	21.29	21.29	21.78	22.35	17.52	18.03	18.03	18.52	19.09