

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: P1055608

Luminaire Tested: S123R3DR-S340D840-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055608  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-S340D840-X4F0-XX-UDD-F-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

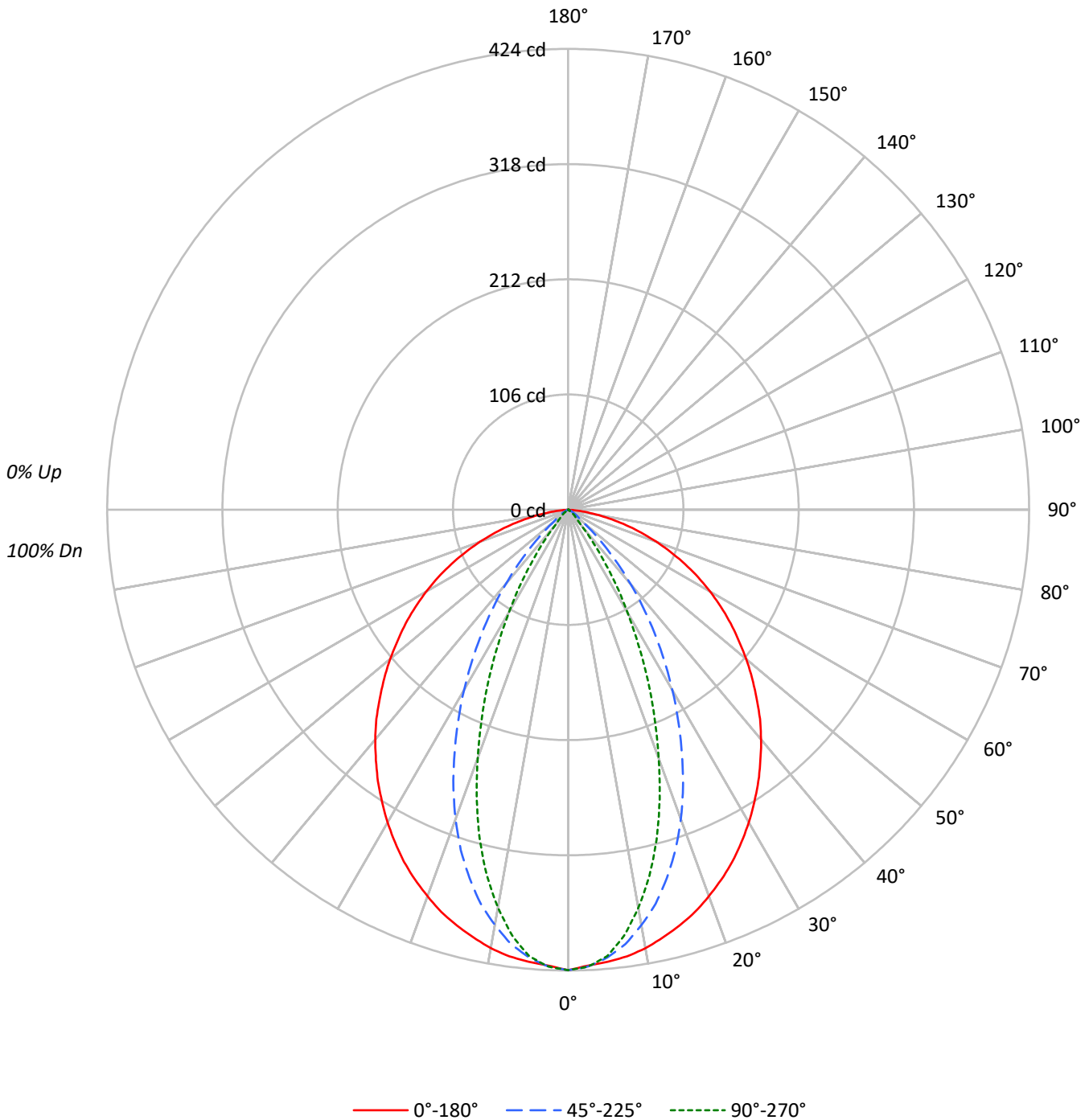
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 495.9 lumens  
Efficiency: N/A  
Efficacy: 39.4 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 12.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59
6	81	70	63	58	79	69	62	57	67	61	57	66	61	56	64	60	56	54
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40

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

	0°	45°	90°
0°	5108	5108	5108
5°	5054	5006	4990
10°	5016	4751	4553
15°	4943	4379	3923
20°	4856	3886	3124
25°	4754	3292	2304
30°	4626	2667	1512
35°	4489	2031	829
40°	4344	1404	283
45°	4174	817	165
50°	4006	321	99
55°	3834	204	46
60°	3636	128	22
65°	3386	63	11
70°	3039	32	14
75°	2581	19	19
80°	1923	28	0
85°	733	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4174 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.9	7.8
10°-20°	98.6	19.9
20°-30°	117.6	23.7
30°-40°	99.8	20.1
40°-50°	67.8	13.7
50°-60°	42.0	8.5
60°-70°	21.3	4.3
70°-80°	8.7	1.7
80°-90°	1.3	0.3
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°	255.0	51.4
0°-40°	354.8	71.5
0°-60°	464.6	93.7
0°-90°	495.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	495.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	424	424	424	424	424	
5°	418	422	414	410	412	40
15°	396	386	351	323	314	112
25°	357	324	248	191	173	164
35°	305	245	138	74	56	191
45°	245	160	48	12	10	189
55°	182	81	10	4	2	163
65°	119	20	2	0	0	117
75°	55	4	0	0	0	59
85°	5	0	0	0	0	9
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	423.7	423.7	423.7	423.7	423.7
2.5°	419.8	425.5	420.7	420.2	420.7
5°	417.6	421.5	413.6	410.5	412.3
7.5°	414.5	416.3	403.1	395.2	395.2
10°	409.7	408.3	388.1	374.9	371.9
12.5°	403.1	397.8	371.4	350.8	345.0
15°	396.0	385.9	350.8	323.1	314.3
17.5°	388.1	372.7	328.3	292.3	279.6
20°	378.5	357.8	302.9	258.9	243.5
22.5°	368.3	341.5	276.0	224.6	207.5
25°	357.4	323.9	247.5	191.2	173.2
27.5°	345.0	305.5	219.3	159.1	139.3
30°	332.3	286.1	191.6	128.3	108.6
32.5°	318.7	265.9	164.0	100.2	81.8
35°	305.0	244.8	138.0	74.3	56.3
37.5°	290.5	223.7	113.0	51.4	35.6
40°	276.0	203.1	89.2	32.5	18.0
42.5°	261.1	181.5	67.7	16.3	12.3
45°	244.8	160.4	47.9	11.9	9.7
47.5°	229.4	140.2	31.6	9.7	7.5
50°	213.6	120.0	17.1	7.0	5.3
52.5°	197.8	100.7	12.3	5.3	3.5
55°	182.4	80.9	9.7	3.5	2.2
57.5°	166.6	63.7	7.5	2.2	1.3
60°	150.8	47.0	5.3	1.3	0.9
62.5°	134.9	32.5	3.5	0.9	0.4
65°	118.7	19.8	2.2	0.4	0.4
67.5°	102.0	13.6	1.3	0.4	0.4
70°	86.2	9.7	0.9	0.4	0.4
72.5°	70.3	6.2	0.4	0.4	0.0
75°	55.4	3.5	0.4	0.4	0.4
77.5°	40.9	1.3	0.4	0.4	0.0
80°	27.7	0.4	0.4	0.4	0.0
82.5°	15.4	0.0	0.4	0.4	0.0
85°	5.3	0.0	0.0	0.4	0.0
87.5°	0.0	0.0	0.0	0.4	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	14.71	15.99	15.08	16.31	16.62	0.00	0.00	0.00	0.00	0.00
	3H	16.66	17.79	17.04	18.12	18.49	0.00	0.00	0.00	0.00	0.00
	4H	17.49	18.54	17.89	18.89	19.28	0.00	0.00	0.00	0.00	0.00
	6H	18.04	19.01	18.46	19.38	19.78	0.00	0.00	0.00	0.00	0.00
	8H	18.17	19.08	18.60	19.47	19.88	0.00	0.00	0.00	0.00	0.00
	12H	18.19	19.07	18.62	19.45	19.88	0.00	0.00	0.00	0.00	0.00
4H	2H	14.48	15.53	14.88	15.88	16.27	0.00	0.00	0.00	0.00	0.00
	3H	16.43	17.29	16.84	17.70	18.10	0.00	0.00	0.00	0.00	0.00
	4H	17.24	18.01	17.68	18.43	18.88	0.00	0.00	0.00	0.00	0.00
	6H	17.85	18.51	18.31	18.96	19.42	0.00	0.00	0.00	0.00	0.00
	8H	18.00	18.62	18.47	19.06	19.54	0.00	0.00	0.00	0.00	0.00
	12H	18.05	18.59	18.53	19.07	19.55	0.00	0.00	0.00	0.00	0.00
8H	4H	17.10	17.72	17.57	18.17	18.64	0.00	0.00	0.00	0.00	0.00
	6H	17.68	18.19	18.19	18.68	19.17	0.00	0.00	0.00	0.00	0.00
	8H	17.83	18.28	18.36	18.80	19.29	0.00	0.00	0.00	0.00	0.00
	12H	17.89	18.29	18.41	18.78	19.36	0.00	0.00	0.00	0.00	0.00
12H	4H	17.05	17.60	17.54	18.08	18.56	0.00	0.00	0.00	0.00	0.00
	6H	17.62	18.07	18.14	18.59	19.08	0.00	0.00	0.00	0.00	0.00
	8H	17.79	18.18	18.31	18.68	19.25	0.00	0.00	0.00	0.00	0.00