

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055746

Luminaire Tested: S123R3DR-H340D850-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055746  
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-H340D850-X4F0-XX-UDD-FLL-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

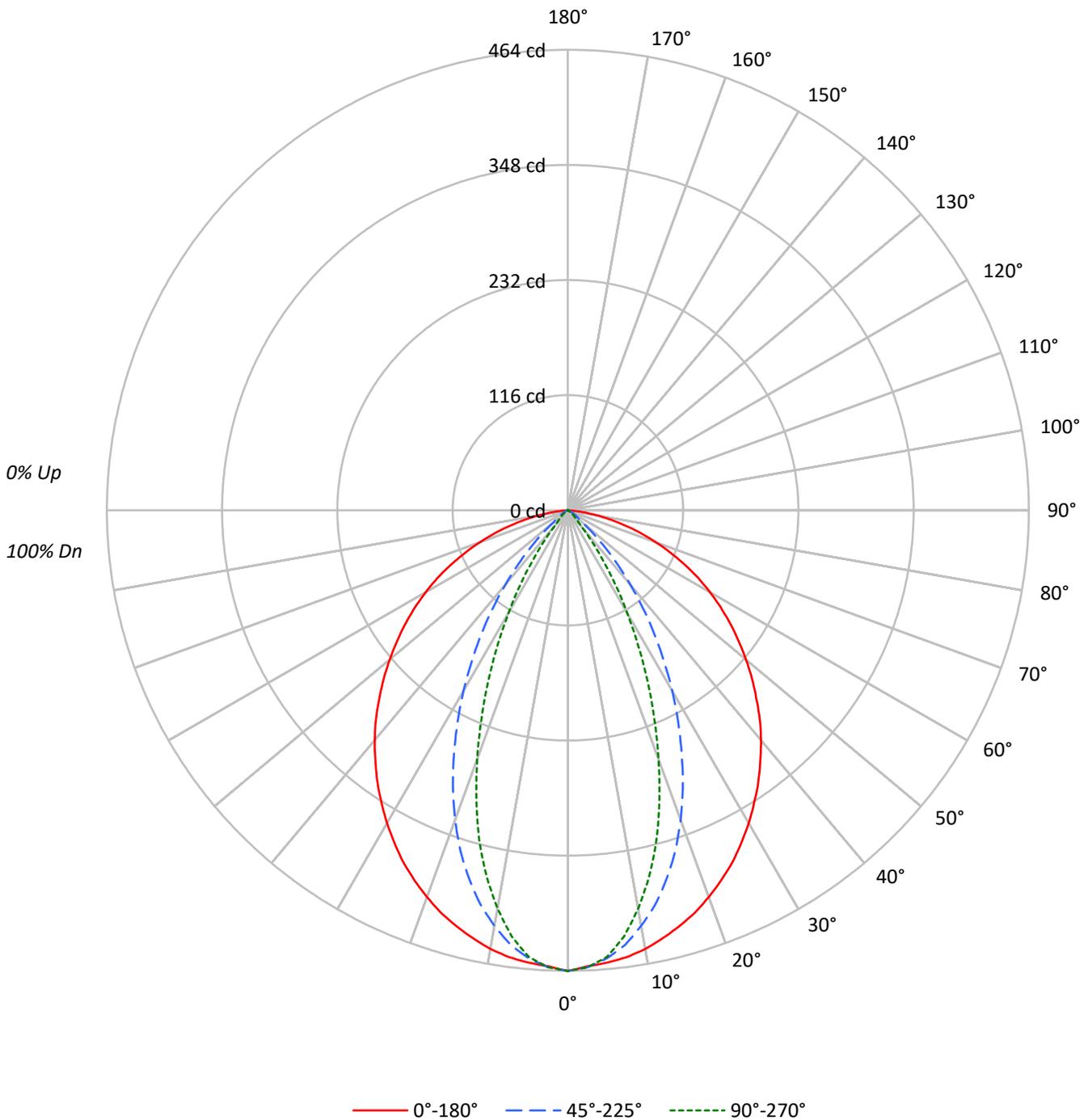
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 543.3 lumens  
Efficiency: N/A  
Efficacy: 46.4 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): 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	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	57	79	69	62	57	67	61	57	66	60	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°	5597	5597	5597
5°	5536	5484	5467
10°	5494	5205	4988
15°	5415	4797	4297
20°	5319	4257	3423
25°	5208	3606	2524
30°	5067	2922	1655
35°	4919	2225	907
40°	4759	1538	310
45°	4573	895	181
50°	4389	353	109
55°	4200	223	50
60°	3983	140	24
65°	3709	68	14
70°	3328	35	18
75°	2828	23	23
80°	2104	35	0
85°	802	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4573 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.6	7.8
10°-20°	108.0	19.9
20°-30°	128.8	23.7
30°-40°	109.3	20.1
40°-50°	74.3	13.7
50°-60°	46.0	8.5
60°-70°	23.3	4.3
70°-80°	9.5	1.8
80°-90°	1.5	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°	279.4	51.4
0°-40°	388.7	71.5
0°-60°	509.0	93.7
0°-90°	543.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	543.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	464	464	464	464	464	
5°	457	462	453	450	452	43
15°	434	423	384	354	344	122
25°	392	355	271	210	190	180
35°	334	268	151	81	62	209
45°	268	176	52	13	11	207
55°	200	89	11	4	2	179
65°	130	22	2	0	0	128
75°	61	4	0	0	0	65
85°	6	0	0	0	0	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	464.2	464.2	464.2	464.2	464.2
2.5°	459.8	466.1	460.8	460.3	460.8
5°	457.4	461.8	453.1	449.7	451.7
7.5°	454.1	456.0	441.6	432.9	432.9
10°	448.8	447.3	425.2	410.7	407.4
12.5°	441.6	435.8	406.9	384.3	378.0
15°	433.8	422.8	384.3	353.9	344.3
17.5°	425.2	408.3	359.7	320.2	306.2
20°	414.6	392.0	331.8	283.6	266.8
22.5°	403.5	374.1	302.4	246.1	227.3
25°	391.5	354.9	271.1	209.5	189.7
27.5°	378.0	334.7	240.3	174.3	152.6
30°	364.0	313.5	209.9	140.6	118.9
32.5°	349.1	291.3	179.6	109.8	89.6
35°	334.2	268.2	151.2	81.4	61.6
37.5°	318.3	245.1	123.8	56.3	39.0
40°	302.4	222.5	97.7	35.6	19.7
42.5°	286.0	198.9	74.2	17.8	13.5
45°	268.2	175.8	52.5	13.0	10.6
47.5°	251.4	153.6	34.7	10.6	8.2
50°	234.0	131.5	18.8	7.7	5.8
52.5°	216.7	110.3	13.5	5.8	3.9
55°	199.8	88.6	10.6	3.9	2.4
57.5°	182.5	69.8	8.2	2.4	1.4
60°	165.2	51.5	5.8	1.4	1.0
62.5°	147.8	35.6	3.9	1.0	0.5
65°	130.0	21.7	2.4	0.5	0.5
67.5°	111.7	14.9	1.4	0.5	0.5
70°	94.4	10.6	1.0	0.5	0.5
72.5°	77.0	6.7	0.5	0.5	0.0
75°	60.7	3.9	0.5	0.5	0.5
77.5°	44.8	1.4	0.5	0.5	0.0
80°	30.3	0.5	0.5	0.5	0.0
82.5°	16.9	0.0	0.5	0.5	0.0
85°	5.8	0.0	0.0	0.5	0.0
87.5°	0.0	0.0	0.0	0.5	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	15.03	16.31	15.39	16.62	16.94	0.00	0.00	0.00	0.00	0.00
	3H	16.97	18.11	17.35	18.44	18.80	0.00	0.00	0.00	0.00	0.00
	4H	17.80	18.86	18.21	19.21	19.59	0.00	0.00	0.00	0.00	0.00
	6H	18.36	19.33	18.77	19.70	20.09	0.00	0.00	0.00	0.00	0.00
	8H	18.48	19.40	18.91	19.79	20.20	0.00	0.00	0.00	0.00	0.00
	12H	18.51	19.38	18.94	19.77	20.20	0.00	0.00	0.00	0.00	0.00
4H	2H	14.79	15.85	15.20	16.20	16.58	0.00	0.00	0.00	0.00	0.00
	3H	16.75	17.61	17.16	18.01	18.42	0.00	0.00	0.00	0.00	0.00
	4H	17.56	18.33	18.00	18.75	19.19	0.00	0.00	0.00	0.00	0.00
	6H	18.16	18.82	18.63	19.27	19.74	0.00	0.00	0.00	0.00	0.00
	8H	18.31	18.93	18.78	19.38	19.85	0.00	0.00	0.00	0.00	0.00
	12H	18.36	18.91	18.85	19.39	19.86	0.00	0.00	0.00	0.00	0.00
8H	4H	17.42	18.04	17.89	18.48	18.96	0.00	0.00	0.00	0.00	0.00
	6H	18.00	18.50	18.50	19.00	19.48	0.00	0.00	0.00	0.00	0.00
	8H	18.15	18.60	18.67	19.12	19.61	0.00	0.00	0.00	0.00	0.00
	12H	18.21	18.60	18.72	19.10	19.67	0.00	0.00	0.00	0.00	0.00
12H	4H	17.37	17.91	17.86	18.40	18.87	0.00	0.00	0.00	0.00	0.00
	6H	17.94	18.39	18.46	18.90	19.40	0.00	0.00	0.00	0.00	0.00
	8H	18.10	18.50	18.62	19.00	19.57	0.00	0.00	0.00	0.00	0.00