

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: P1055610

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

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055610  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)  
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-W  
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

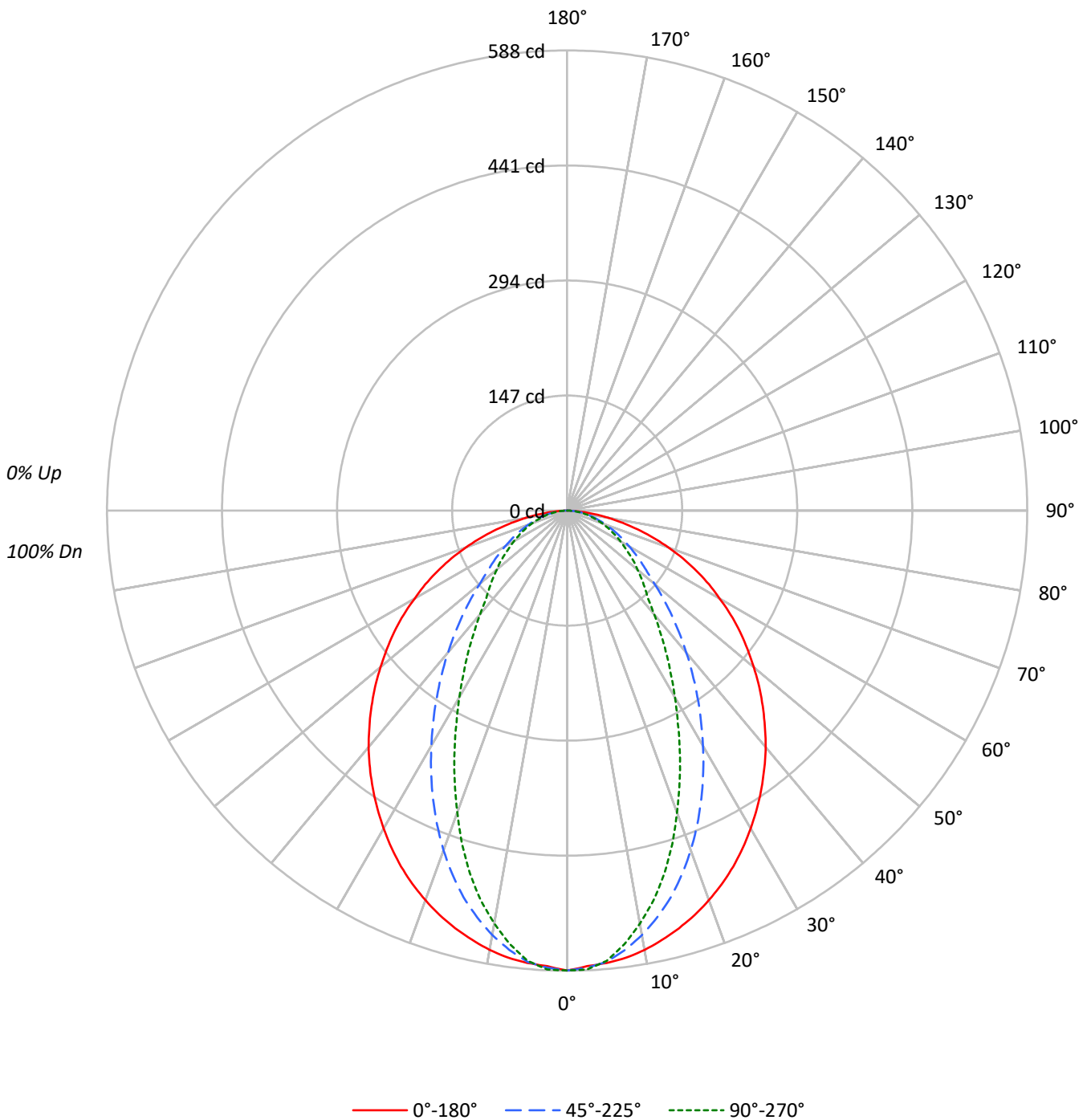
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1030.7 lumens  
Efficiency: N/A  
Efficacy: 81.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02  
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	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													100															
1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86													86															
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74													74															
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65													65															
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57													57															
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50													50															
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45													45															
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40													40															
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37													37															
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34													34															
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31													31															

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

	0°	45°	90°
0°	7086	7086	7086
5°	7022	7006	6990
10°	6979	6743	6559
15°	6896	6386	5991
20°	6796	5928	5267
25°	6678	5397	4532
30°	6529	4828	3831
35°	6373	4270	3235
40°	6212	3728	2718
45°	6026	3216	2399
50°	5837	2737	2202
55°	5663	2438	2033
60°	5428	2204	1898
65°	5203	2020	1780
70°	4850	1858	1674
75°	4341	1719	1574
80°	3721	1590	1465
85°	2614	1452	1397

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6026 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.5	5.3
10°-20°	144.1	14.0
20°-30°	189.9	18.4
30°-40°	192.7	18.7
40°-50°	167.5	16.3
50°-60°	131.2	12.7
60°-70°	89.2	8.7
70°-80°	48.3	4.7
80°-90°	13.3	1.3
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°	388.5	37.7
0°-40°	581.2	56.4
0°-60°	879.9	85.4
0°-90°	1030.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1030.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	588	588	588	588	588	
5°	580	587	579	574	578	55
15°	552	545	512	487	480	156
25°	502	472	406	355	341	231
35°	433	382	290	235	220	271
45°	353	284	189	146	141	273
55°	269	187	116	99	97	241
65°	182	101	71	63	62	180
75°	93	47	37	34	34	99
85°	19	11	10	10	10	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	587.7	587.7	587.7	587.7	587.7
2.5°	582.8	590.3	584.6	585.0	586.8
5°	580.2	587.2	578.9	573.6	577.6
7.5°	576.3	581.5	566.1	557.8	559.1
10°	570.1	571.9	550.8	537.6	535.8
12.5°	561.7	558.7	532.3	513.0	509.9
15°	552.5	544.6	511.6	486.6	480.0
17.5°	542.0	528.8	487.5	456.7	446.6
20°	529.7	511.2	462.0	422.8	410.5
22.5°	516.5	492.7	434.3	388.1	375.4
25°	502.0	471.6	405.7	355.2	340.7
27.5°	486.1	450.5	376.7	322.6	306.4
30°	469.0	428.6	346.8	291.0	275.2
32.5°	451.4	405.3	318.2	261.5	246.1
35°	433.0	381.5	290.1	234.7	219.8
37.5°	414.1	357.4	262.9	209.2	195.2
40°	394.7	332.7	236.9	185.5	172.7
42.5°	374.1	308.1	211.9	163.1	153.4
45°	353.4	283.5	188.6	145.5	140.7
47.5°	332.7	258.5	166.6	133.2	128.8
50°	311.2	234.3	145.9	121.8	117.4
52.5°	290.1	210.5	128.8	110.8	107.7
55°	269.4	187.2	116.0	98.9	96.7
57.5°	247.9	164.4	103.3	89.7	87.0
60°	225.1	142.4	91.4	80.0	78.7
62.5°	204.4	121.8	80.9	71.6	70.3
65°	182.4	101.1	70.8	63.3	62.4
67.5°	160.0	84.0	61.5	55.4	54.9
70°	137.6	70.8	52.7	47.9	47.5
72.5°	115.6	58.5	44.4	41.3	40.4
75°	93.2	46.6	36.9	34.3	33.8
77.5°	73.0	36.0	29.5	27.7	27.3
80°	53.6	26.8	22.9	21.5	21.1
82.5°	35.2	18.5	16.3	15.4	15.4
85°	18.9	11.4	10.5	9.7	10.1
87.5°	6.6	4.8	4.8	4.4	4.8
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	17.36	18.85	17.73	19.17	19.48	12.51	14.00	12.88	14.32	14.63
	3H	19.25	20.59	19.63	20.92	21.28	14.14	15.48	14.52	15.81	16.17
	4H	20.00	21.26	20.40	21.61	21.99	14.77	16.03	15.17	16.38	16.76
	6H	20.57	21.73	20.98	22.10	22.49	15.26	16.42	15.68	16.79	17.18
	8H	20.74	21.85	21.17	22.24	22.64	15.44	16.54	15.86	16.93	17.33
	12H	20.84	21.90	21.27	22.28	22.71	15.56	16.62	15.99	17.00	17.43
4H	2H	17.41	18.66	17.81	19.01	19.39	13.24	14.50	13.64	14.84	15.22
	3H	19.43	20.47	19.84	20.87	21.27	15.06	16.10	15.47	16.50	16.90
	4H	20.24	21.18	20.68	21.60	22.04	15.81	16.75	16.24	17.16	17.60
	6H	20.92	21.74	21.38	22.19	22.65	16.41	17.23	16.87	17.68	18.14
	8H	21.16	21.92	21.62	22.36	22.83	16.63	17.39	17.09	17.84	18.31
	12H	21.31	21.99	21.79	22.47	22.94	16.80	17.48	17.28	17.96	18.43
8H	4H	20.27	21.03	20.73	21.47	21.94	16.19	16.95	16.65	17.40	17.86
	6H	21.00	21.63	21.49	22.12	22.60	16.92	17.55	17.42	18.04	18.52
	8H	21.27	21.83	21.78	22.34	22.83	17.21	17.77	17.72	18.28	18.77
	12H	21.47	21.97	21.98	22.47	23.03	17.45	17.95	17.96	18.44	19.01
12H	4H	20.25	20.93	20.73	21.41	21.88	16.24	16.93	16.73	17.40	17.88
	6H	20.98	21.55	21.49	22.06	22.54	17.00	17.57	17.51	18.08	18.57
	8H	21.29	21.79	21.80	22.28	22.84	17.35	17.85	17.86	18.34	18.91