

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: P1055624

Luminaire Tested: S123R3DR-S340D940-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055624  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-S340D940-X4F0-XX-UDD-F-S  
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

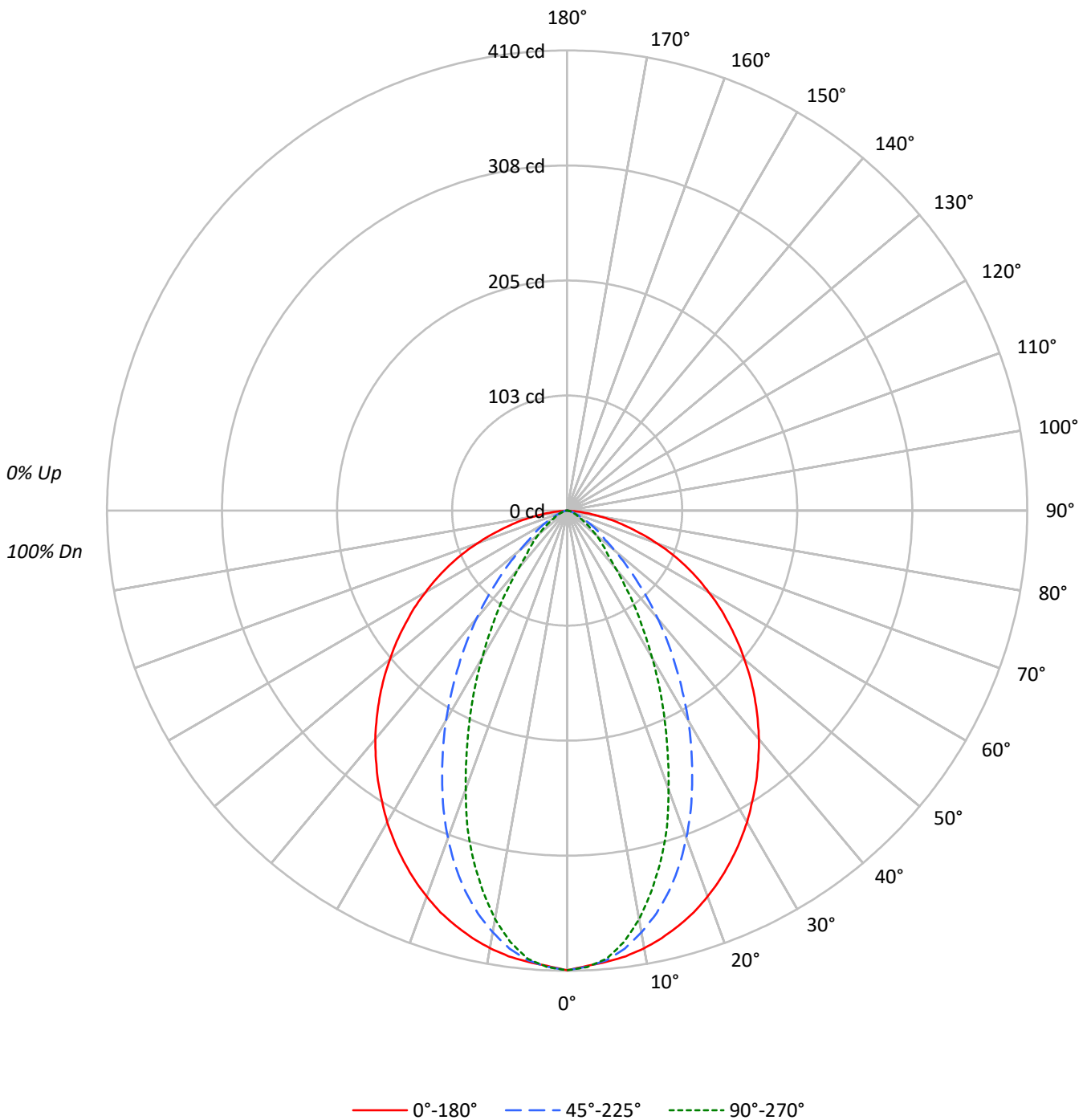
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 569.5 lumens  
Efficiency: N/A  
Efficacy: 45.2 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94  
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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41
10	61	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38

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

	0°	45°	90°
0°	4937	4937	4937
5°	4885	4866	4852
10°	4847	4670	4524
15°	4782	4380	4025
20°	4696	3984	3391
25°	4585	3505	2736
30°	4463	3004	2108
35°	4324	2479	1560
40°	4185	1974	1062
45°	4031	1477	801
50°	3866	1026	626
55°	3695	750	456
60°	3518	562	328
65°	3309	377	254
70°	2996	275	204
75°	2585	200	163
80°	2076	160	132
85°	1079	166	111

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4031 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	37.9	6.6
10°-20°	98.5	17.3
20°-30°	123.8	21.7
30°-40°	115.3	20.2
40°-50°	88.3	15.5
50°-60°	58.7	10.3
60°-70°	31.6	5.6
70°-80°	12.9	2.3
80°-90°	2.5	0.4
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°	260.2	45.7
0°-40°	375.5	65.9
0°-60°	522.4	91.7
0°-90°	569.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	569.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	410	410	410	410	410	
5°	404	408	402	400	401	38
15°	383	377	351	330	322	108
25°	345	321	264	220	206	159
35°	294	250	168	119	106	184
45°	236	175	87	51	47	182
55°	176	102	36	25	22	158
65°	116	39	13	10	9	115
75°	56	9	4	4	4	59
85°	8	1	1	1	1	11
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	409.5	409.5	409.5	409.5	409.5
2.5°	406.0	411.0	406.8	407.1	407.1
5°	403.6	407.9	402.1	400.5	400.9
7.5°	400.5	403.3	393.6	388.5	387.7
10°	395.9	396.7	381.5	372.6	369.5
12.5°	390.1	387.3	367.6	352.8	347.0
15°	383.1	376.9	350.9	330.3	322.5
17.5°	375.3	364.8	331.8	305.1	295.8
20°	366.0	351.3	310.5	277.1	264.3
22.5°	355.9	336.9	288.0	248.4	234.0
25°	344.7	321.4	263.5	219.7	205.7
27.5°	333.0	304.7	239.5	192.5	178.1
30°	320.6	287.6	215.8	166.1	151.4
32.5°	307.0	269.0	191.3	141.7	126.9
35°	293.8	250.3	168.4	119.2	106.0
37.5°	279.8	231.7	146.3	99.4	84.6
40°	265.9	212.7	125.4	80.0	67.5
42.5°	251.1	193.7	105.6	63.7	53.9
45°	236.4	174.7	86.6	50.8	47.0
47.5°	221.6	155.6	69.9	43.9	40.0
50°	206.1	137.4	54.7	37.3	33.4
52.5°	191.3	119.2	42.7	30.7	27.2
55°	175.8	101.7	35.7	24.8	21.7
57.5°	161.5	83.8	29.5	19.4	17.1
60°	145.9	67.9	23.3	15.1	13.6
62.5°	131.2	53.2	17.9	12.0	10.9
65°	116.0	39.2	13.2	9.7	8.9
67.5°	100.9	28.3	10.1	7.8	7.4
70°	85.0	21.3	7.8	6.2	5.8
72.5°	69.9	15.1	5.8	5.0	4.7
75°	55.5	9.3	4.3	3.9	3.5
77.5°	42.7	5.4	3.1	3.1	2.7
80°	29.9	3.1	2.3	2.3	1.9
82.5°	18.2	1.9	1.6	1.6	1.6
85°	7.8	1.2	1.2	1.2	0.8
87.5°	1.2	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	15.36	16.72	15.72	17.03	17.34	3.93	5.29	4.30	5.60	5.92
	3H	17.11	18.32	17.49	18.65	19.01	4.60	5.80	4.98	6.13	6.50
	4H	17.81	18.94	18.21	19.29	19.67	4.80	5.92	5.20	6.27	6.65
	6H	18.33	19.36	18.74	19.73	20.12	4.91	5.95	5.33	6.32	6.71
	8H	18.46	19.44	18.89	19.83	20.24	4.95	5.93	5.38	6.32	6.72
	12H	18.52	19.45	18.95	19.83	20.26	4.96	5.90	5.40	6.28	6.71
4H	2H	15.17	16.29	15.57	16.64	17.02	4.49	5.61	4.89	5.96	6.35
	3H	16.96	17.88	17.37	18.28	18.69	5.29	6.21	5.70	6.61	7.02
	4H	17.65	18.48	18.09	18.90	19.34	5.55	6.37	5.98	6.79	7.23
	6H	18.22	18.93	18.69	19.38	19.85	5.74	6.45	6.20	6.90	7.36
	8H	18.40	19.06	18.87	19.51	19.98	5.80	6.46	6.27	6.91	7.38
	12H	18.49	19.07	18.97	19.55	20.03	5.84	6.42	6.32	6.91	7.38
8H	4H	17.53	18.19	18.00	18.64	19.11	5.86	6.53	6.33	6.97	7.44
	6H	18.09	18.63	18.59	19.12	19.60	6.11	6.65	6.61	7.14	7.62
	8H	18.26	18.75	18.78	19.26	19.75	6.20	6.68	6.72	7.20	7.69
	12H	18.37	18.79	18.88	19.29	19.86	6.29	6.71	6.80	7.21	7.78
12H	4H	17.49	18.07	17.97	18.56	19.03	5.91	6.49	6.39	6.98	7.45
	6H	18.03	18.51	18.55	19.03	19.52	6.15	6.64	6.67	7.15	7.64
	8H	18.22	18.65	18.74	19.14	19.71	6.28	6.71	6.80	7.21	7.78