

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: P1055652

Luminaire Tested: S123R3DR-S560D940-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055652  
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-S560D940-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, 90 CRI LEDS  
Ballast/Driver: -

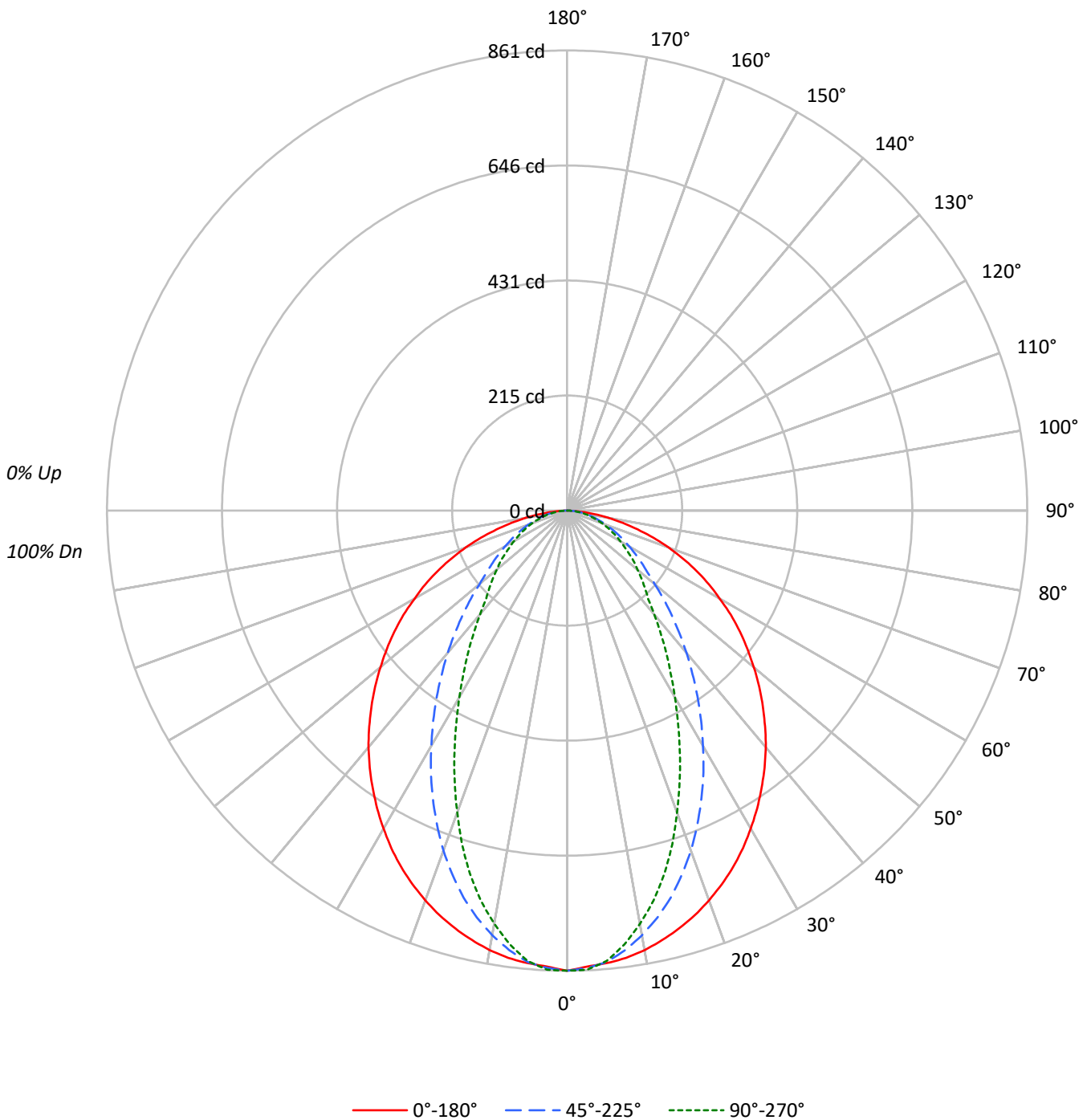
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1510.0 lumens  
Efficiency: N/A  
Efficacy: 79.1 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): 19.1  
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	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31

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

	0°	45°	90°
0°	10381	10381	10381
5°	10287	10264	10240
10°	10225	9878	9610
15°	10103	9355	8777
20°	9956	8683	7716
25°	9783	7907	6639
30°	9565	7074	5612
35°	9336	6255	4739
40°	9102	5463	3983
45°	8827	4711	3514
50°	8551	4010	3224
55°	8296	3573	2978
60°	7950	3229	2780
65°	7623	2958	2607
70°	7107	2725	2450
75°	6358	2520	2310
80°	5457	2326	2145
85°	3832	2144	2047

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8827 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	79.8	5.3
10°-20°	211.1	14.0
20°-30°	278.2	18.4
30°-40°	282.3	18.7
40°-50°	245.4	16.3
50°-60°	192.3	12.7
60°-70°	130.6	8.7
70°-80°	70.8	4.7
80°-90°	19.5	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°	569.1	37.7
0°-40°	851.4	56.4
0°-60°	1289.1	85.4
0°-90°	1510.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1510.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	861	861	861	861	861	
5°	850	860	848	840	846	81
15°	809	798	750	713	703	228
25°	735	691	594	520	499	339
35°	634	559	425	344	322	397
45°	518	415	276	213	206	400
55°	395	274	170	145	142	352
65°	267	148	104	93	91	264
75°	136	68	54	50	50	146
85°	28	17	16	14	15	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	861.0	861.0	861.0	861.0	861.0
2.5°	853.9	864.8	856.4	857.1	859.7
5°	850.0	860.3	848.1	840.3	846.1
7.5°	844.2	851.9	829.4	817.2	819.1
10°	835.2	837.8	806.9	787.5	785.0
12.5°	823.0	818.5	779.8	751.5	747.0
15°	809.4	797.8	749.5	712.8	703.2
17.5°	794.0	774.7	714.1	669.1	654.2
20°	776.0	748.9	676.8	619.5	601.4
22.5°	756.6	721.9	636.2	568.6	549.9
25°	735.4	690.9	594.4	520.3	499.1
27.5°	712.2	660.0	551.9	472.7	448.8
30°	687.1	627.8	508.1	426.3	403.1
32.5°	661.3	593.7	466.2	383.1	360.6
35°	634.3	558.9	425.0	343.9	322.0
37.5°	606.6	523.5	385.1	306.5	285.9
40°	578.3	487.5	347.1	271.7	253.1
42.5°	548.0	451.4	310.4	238.9	224.7
45°	517.7	415.3	276.3	213.1	206.1
47.5°	487.5	378.6	244.1	195.1	188.7
50°	455.9	343.2	213.8	178.4	171.9
52.5°	425.0	308.4	188.7	162.3	157.8
55°	394.7	274.3	170.0	144.9	141.7
57.5°	363.2	240.8	151.3	131.4	127.5
60°	329.7	208.6	133.9	117.2	115.3
62.5°	299.4	178.4	118.5	105.0	103.0
65°	267.2	148.1	103.7	92.7	91.4
67.5°	234.4	123.0	90.2	81.1	80.5
70°	201.6	103.7	77.3	70.2	69.5
72.5°	169.4	85.6	65.0	60.5	59.2
75°	136.5	68.3	54.1	50.2	49.6
77.5°	106.9	52.8	43.1	40.6	39.9
80°	78.6	39.3	33.5	31.6	30.9
82.5°	51.5	27.0	23.8	22.5	22.5
85°	27.7	16.7	15.5	14.2	14.8
87.5°	9.7	7.1	7.1	6.4	7.1
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	18.69	20.18	19.05	20.49	20.81	13.84	15.33	14.20	15.64	15.96
	3H	20.57	21.91	20.95	22.24	22.60	15.46	16.80	15.84	17.13	17.49
	4H	21.33	22.59	21.73	22.94	23.31	16.10	17.36	16.50	17.71	18.08
	6H	21.90	23.06	22.31	23.42	23.81	16.59	17.75	17.00	18.12	18.51
	8H	22.07	23.17	22.50	23.56	23.96	16.76	17.86	17.19	18.25	18.66
	12H	22.17	23.22	22.60	23.60	24.03	16.88	17.94	17.32	18.32	18.75
4H	2H	18.73	19.99	19.13	20.34	20.72	14.57	15.82	14.97	16.17	16.55
	3H	20.75	21.79	21.16	22.19	22.60	16.39	17.43	16.80	17.83	18.23
	4H	21.57	22.51	22.00	22.92	23.36	17.13	18.07	17.56	18.49	18.93
	6H	22.25	23.07	22.71	23.51	23.97	17.74	18.56	18.20	19.00	19.46
	8H	22.48	23.25	22.95	23.69	24.16	17.96	18.72	18.42	19.16	19.63
	12H	22.63	23.32	23.12	23.79	24.27	18.12	18.81	18.61	19.28	19.76
8H	4H	21.59	22.36	22.06	22.80	23.27	17.52	18.28	17.98	18.72	19.19
	6H	22.32	22.95	22.82	23.44	23.92	18.24	18.88	18.74	19.37	19.84
	8H	22.59	23.16	23.11	23.67	24.16	18.53	19.10	19.05	19.61	20.10
	12H	22.80	23.30	23.31	23.79	24.36	18.78	19.28	19.29	19.77	20.33
12H	4H	21.58	22.26	22.06	22.74	23.21	17.57	18.25	18.05	18.73	19.20
	6H	22.31	22.87	22.82	23.38	23.87	18.33	18.89	18.84	19.40	19.89
	8H	22.61	23.11	23.12	23.60	24.17	18.67	19.17	19.18	19.67	20.23