

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: P1055772

Luminaire Tested: S123R3DR-H560D840-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055772  
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-H560D840-X4F0-XX-UDD-F-W  
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

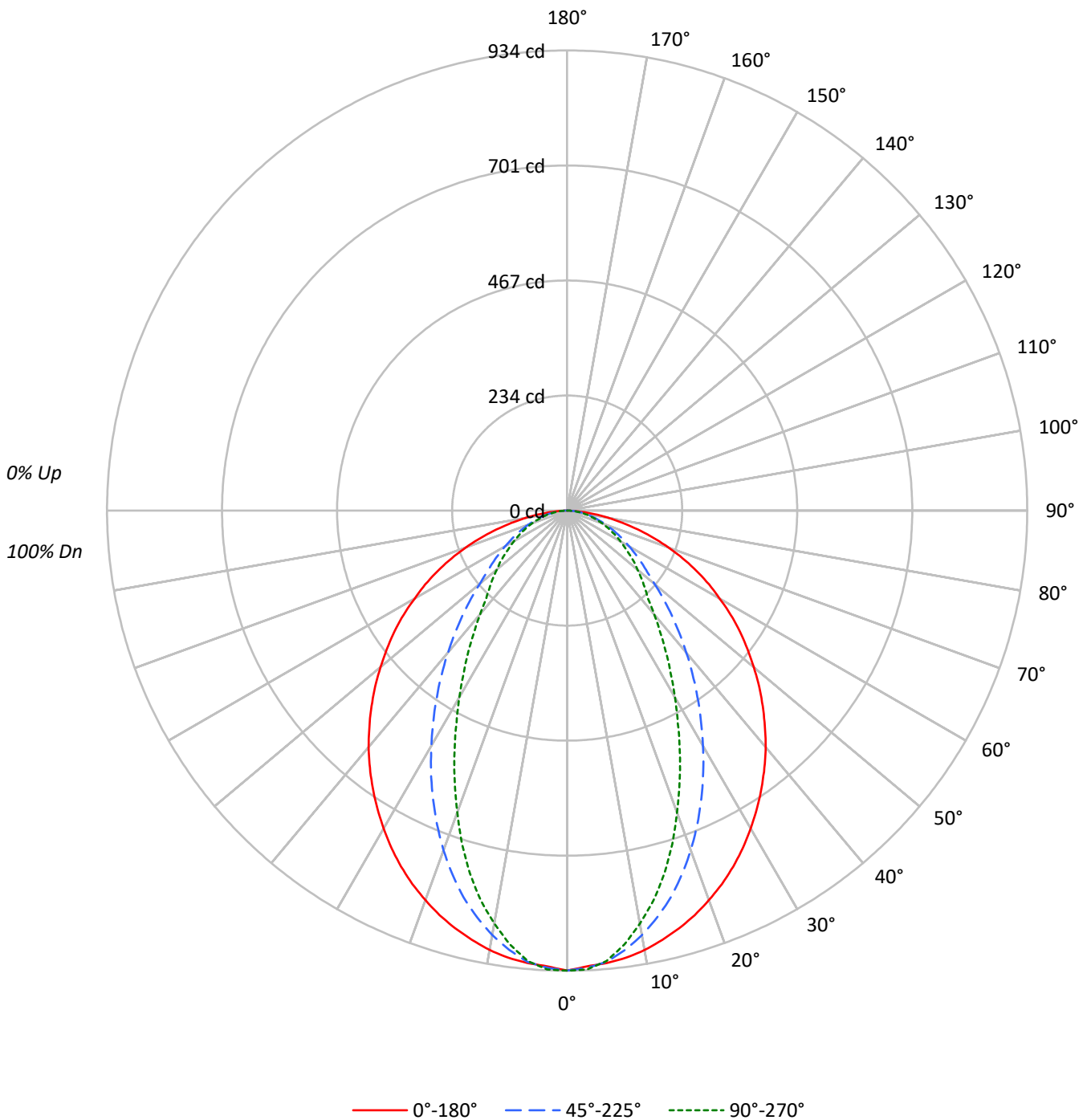
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1637.4 lumens  
Efficiency: N/A  
Efficacy: 94.6 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): 17.3  
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°	11256	11256	11256
5°	11155	11129	11104
10°	11088	10711	10421
15°	10955	10145	9517
20°	10795	9416	8368
25°	10608	8574	7199
30°	10373	7669	6085
35°	10123	6784	5138
40°	9868	5924	4319
45°	9572	5108	3809
50°	9273	4348	3496
55°	8996	3874	3229
60°	8620	3501	3014
65°	8267	3207	2830
70°	7706	2954	2658
75°	6894	2734	2506
80°	5915	2520	2326
85°	4150	2324	2227

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9572 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.5	5.3
10°-20°	229.0	14.0
20°-30°	301.6	18.4
30°-40°	306.1	18.7
40°-50°	266.1	16.3
50°-60°	208.5	12.7
60°-70°	141.6	8.7
70°-80°	76.8	4.7
80°-90°	21.1	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°	617.1	37.7
0°-40°	923.3	56.4
0°-60°	1397.8	85.4
0°-90°	1637.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1637.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	934	934	934	934	934	
5°	922	933	920	911	918	88
15°	878	865	813	773	762	247
25°	797	749	644	564	541	367
35°	688	606	461	373	349	430
45°	561	450	300	231	223	433
55°	428	298	184	157	154	382
65°	290	161	112	101	99	286
75°	148	74	59	54	54	158
85°	30	18	17	15	16	38
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	933.6	933.6	933.6	933.6	933.6
2.5°	925.9	937.8	928.7	929.4	932.2
5°	921.7	932.9	919.6	911.2	917.5
7.5°	915.4	923.8	899.4	886.1	888.2
10°	905.7	908.5	874.9	854.0	851.2
12.5°	892.4	887.5	845.6	814.9	810.0
15°	877.7	865.2	812.8	773.0	762.5
17.5°	861.0	840.0	774.4	725.5	709.4
20°	841.4	812.1	733.9	671.7	652.2
22.5°	820.5	782.8	689.9	616.6	596.3
25°	797.4	749.2	644.5	564.2	541.2
27.5°	772.3	715.7	598.4	512.5	486.7
30°	745.1	680.8	550.9	462.3	437.1
32.5°	717.1	643.8	505.5	415.5	391.0
35°	687.8	606.1	460.9	372.9	349.1
37.5°	657.8	567.7	417.6	332.4	310.0
40°	627.0	528.6	376.4	294.7	274.4
42.5°	594.2	489.5	336.6	259.1	243.7
45°	561.4	450.4	299.6	231.1	223.4
47.5°	528.6	410.6	264.6	211.6	204.6
50°	494.4	372.2	231.8	193.4	186.4
52.5°	460.9	334.5	204.6	176.0	171.1
55°	428.0	297.5	184.3	157.1	153.6
57.5°	393.8	261.2	164.1	142.4	138.3
60°	357.5	226.2	145.2	127.1	125.0
62.5°	324.7	193.4	128.5	113.8	111.7
65°	289.8	160.6	112.4	100.6	99.2
67.5°	254.2	133.4	97.8	88.0	87.3
70°	218.6	112.4	83.8	76.1	75.4
72.5°	183.6	92.9	70.5	65.6	64.2
75°	148.0	74.0	58.7	54.5	53.8
77.5°	115.9	57.3	46.8	44.0	43.3
80°	85.2	42.6	36.3	34.2	33.5
82.5°	55.9	29.3	25.8	24.4	24.4
85°	30.0	18.2	16.8	15.4	16.1
87.5°	10.5	7.7	7.7	7.0	7.7
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	18.97	20.46	19.33	20.78	21.09	14.12	15.61	14.48	15.92	16.24
	3H	20.86	22.20	21.23	22.52	22.89	15.74	17.08	16.12	17.41	17.77
	4H	21.61	22.87	22.01	23.22	23.60	16.38	17.64	16.78	17.99	18.37
	6H	22.18	23.34	22.59	23.70	24.10	16.87	18.03	17.28	18.40	18.79
	8H	22.35	23.45	22.78	23.84	24.25	17.04	18.15	17.47	18.54	18.94
	12H	22.45	23.50	22.88	23.89	24.32	17.17	18.22	17.60	18.61	19.03
4H	2H	19.02	20.27	19.42	20.62	21.00	14.84	16.10	15.24	16.45	16.83
	3H	21.03	22.08	21.44	22.48	22.88	16.67	17.71	17.08	18.11	18.51
	4H	21.85	22.79	22.28	23.21	23.64	17.41	18.35	17.85	18.77	19.21
	6H	22.53	23.35	22.99	23.79	24.25	18.02	18.84	18.48	19.28	19.74
	8H	22.76	23.53	23.23	23.97	24.44	18.24	19.00	18.70	19.44	19.91
	12H	22.92	23.60	23.40	24.08	24.55	18.40	19.09	18.89	19.57	20.04
8H	4H	21.87	22.64	22.34	23.08	23.55	17.80	18.56	18.26	19.00	19.47
	6H	22.60	23.23	23.10	23.73	24.20	18.53	19.16	19.02	19.65	20.13
	8H	22.87	23.44	23.39	23.95	24.44	18.81	19.38	19.33	19.89	20.38
	12H	23.08	23.58	23.59	24.07	24.64	19.06	19.56	19.57	20.05	20.61
12H	4H	21.86	22.54	22.34	23.02	23.49	17.85	18.53	18.33	19.01	19.48
	6H	22.59	23.15	23.10	23.66	24.15	18.61	19.17	19.12	19.68	20.17
	8H	22.89	23.39	23.40	23.89	24.45	18.95	19.45	19.46	19.95	20.51