

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: P1055765

Luminaire Tested: S123R3DR-H560D830-X4F0-XX-UDD-FLL-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055765  
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-H560D830-X4F0-XX-UDD-FLL-S  
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

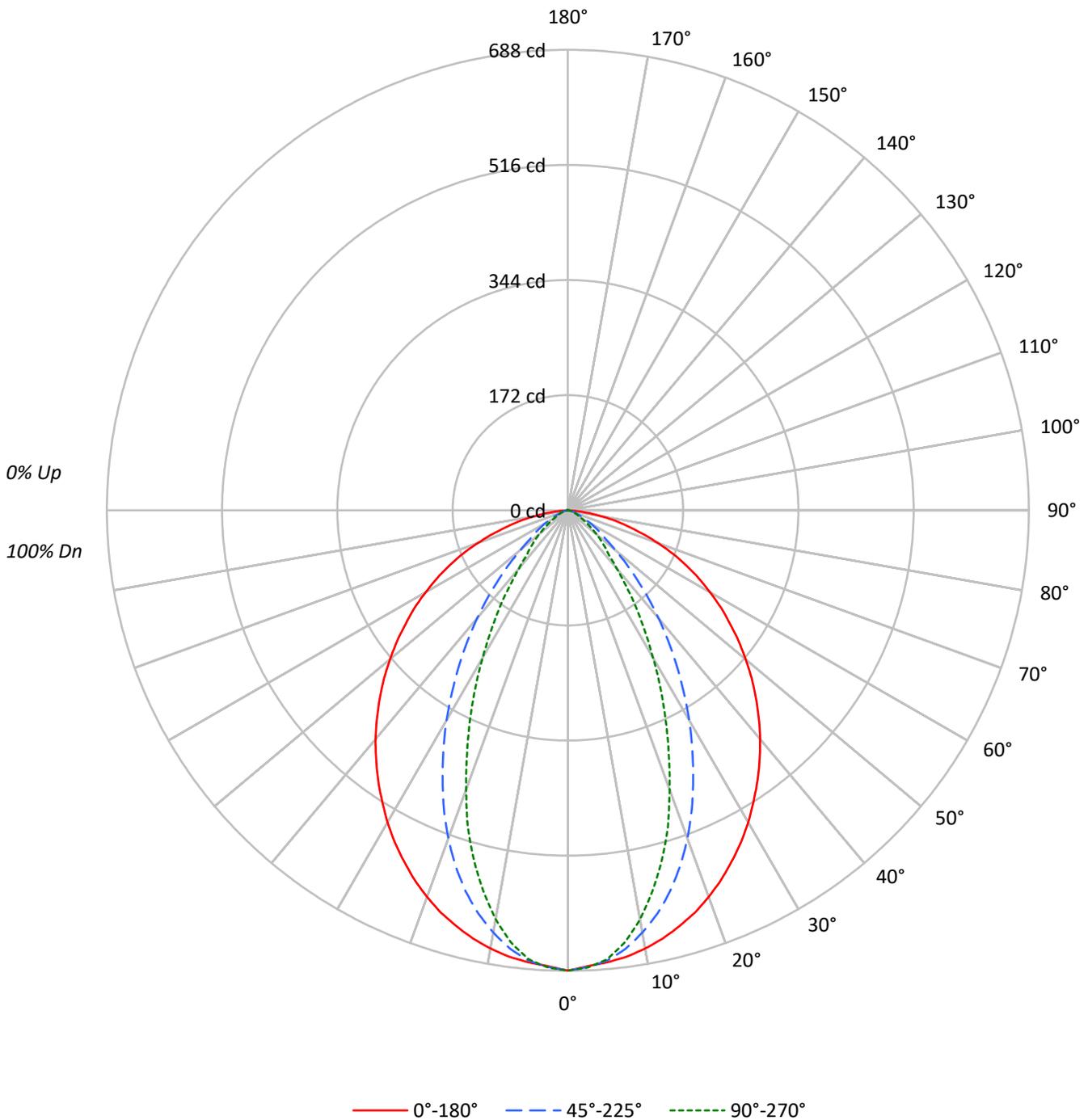
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 956.2 lumens  
Efficiency: N/A  
Efficacy: 55.3 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): 17.3  
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	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	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89					89			
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79					79			
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70					70			
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62					62			
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56					56			
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51					51			
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46					46			
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42					42			
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39					39			
10	61	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36					36			

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

	0°	45°	90°
0°	8290	8290	8290
5°	8203	8172	8147
10°	8139	7842	7595
15°	8028	7354	6760
20°	7885	6690	5694
25°	7698	5886	4595
30°	7494	5045	3539
35°	7262	4162	2618
40°	7026	3313	1785
45°	6767	2477	1345
50°	6492	1724	1050
55°	6205	1261	767
60°	5908	943	550
65°	5560	633	428
70°	5030	458	345
75°	4341	335	275
80°	3485	271	229
85°	1798	277	180

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6767 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	63.6	6.6
10°-20°	165.4	17.3
20°-30°	207.9	21.7
30°-40°	193.6	20.2
40°-50°	148.2	15.5
50°-60°	98.5	10.3
60°-70°	53.1	5.6
70°-80°	21.7	2.3
80°-90°	4.2	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°	436.9	45.7
0°-40°	630.5	65.9
0°-60°	877.2	91.7
0°-90°	956.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	956.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	688	688	688	688	688	
5°	678	685	675	673	673	64
15°	643	633	589	555	542	181
25°	579	540	442	369	345	266
35°	493	420	283	200	178	308
45°	397	293	145	85	79	306
55°	295	171	60	42	36	265
65°	195	66	22	16	15	193
75°	93	16	7	6	6	100
85°	13	2	2	2	1	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	687.6	687.6	687.6	687.6	687.6
2.5°	681.7	690.2	683.0	683.7	683.7
5°	677.8	685.0	675.2	672.6	673.2
7.5°	672.6	677.1	660.8	652.4	651.1
10°	664.8	666.1	640.6	625.7	620.4
12.5°	655.0	650.4	617.2	592.4	582.6
15°	643.2	632.8	589.2	554.6	541.6
17.5°	630.2	612.6	557.2	512.3	496.6
20°	614.6	589.8	521.4	465.3	443.8
22.5°	597.6	565.7	483.6	417.1	393.0
25°	578.7	539.6	442.5	368.9	345.4
27.5°	559.2	511.6	402.1	323.3	299.1
30°	538.3	482.9	362.4	278.9	254.2
32.5°	515.5	451.6	321.3	237.9	213.1
35°	493.4	420.4	282.8	200.1	177.9
37.5°	469.9	389.1	245.7	166.8	142.1
40°	446.4	357.1	210.5	134.3	113.4
42.5°	421.7	325.2	177.3	106.9	90.6
45°	396.9	293.3	145.3	85.4	78.9
47.5°	372.1	261.3	117.3	73.6	67.1
50°	346.1	230.7	91.9	62.6	56.0
52.5°	321.3	200.1	71.7	51.5	45.6
55°	295.2	170.8	60.0	41.7	36.5
57.5°	271.1	140.8	49.5	32.6	28.7
60°	245.0	114.1	39.1	25.4	22.8
62.5°	220.3	89.3	30.0	20.2	18.2
65°	194.9	65.8	22.2	16.3	15.0
67.5°	169.4	47.6	16.9	13.0	12.4
70°	142.7	35.8	13.0	10.4	9.8
72.5°	117.3	25.4	9.8	8.5	7.8
75°	93.2	15.6	7.2	6.5	5.9
77.5°	71.7	9.1	5.2	5.2	4.6
80°	50.2	5.2	3.9	3.9	3.3
82.5°	30.6	3.3	2.6	2.6	2.6
85°	13.0	2.0	2.0	2.0	1.3
87.5°	2.0	0.7	0.7	0.7	0.7
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	17.16	18.52	17.53	18.83	19.15	5.74	7.09	6.10	7.41	7.72
	3H	18.91	20.12	19.29	20.45	20.81	6.40	7.60	6.78	7.93	8.30
	4H	19.61	20.74	20.02	21.09	21.47	6.60	7.72	7.00	8.07	8.45
	6H	20.13	21.16	20.54	21.53	21.92	6.72	7.75	7.13	8.12	8.52
	8H	20.27	21.25	20.70	21.64	22.04	6.75	7.73	7.18	8.12	8.53
	12H	20.32	21.25	20.75	21.64	22.07	6.76	7.70	7.20	8.08	8.51
4H	2H	16.97	18.09	17.37	18.44	18.83	6.30	7.42	6.70	7.77	8.15
	3H	18.76	19.68	19.17	20.09	20.49	7.09	8.01	7.50	8.42	8.82
	4H	19.46	20.28	19.89	20.70	21.14	7.35	8.17	7.78	8.59	9.03
	6H	20.03	20.74	20.49	21.18	21.65	7.55	8.26	8.01	8.71	9.17
	8H	20.20	20.86	20.67	21.31	21.78	7.60	8.27	8.07	8.71	9.18
	12H	20.29	20.87	20.77	21.36	21.83	7.64	8.22	8.12	8.70	9.18
8H	4H	19.33	20.00	19.80	20.44	20.91	7.66	8.33	8.13	8.77	9.24
	6H	19.89	20.43	20.39	20.92	21.40	7.91	8.45	8.41	8.95	9.43
	8H	20.06	20.55	20.58	21.06	21.55	8.00	8.49	8.52	9.00	9.49
	12H	20.17	20.60	20.68	21.09	21.66	8.08	8.51	8.60	9.00	9.57
12H	4H	19.29	19.88	19.78	20.36	20.83	7.71	8.29	8.19	8.78	9.25
	6H	19.83	20.31	20.35	20.83	21.32	7.96	8.44	8.48	8.96	9.45
	8H	20.02	20.45	20.54	20.95	21.52	8.08	8.51	8.60	9.01	9.58