

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: P1055782

Luminaire Tested: S123R3DR-H560D935-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055782  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-H560D935-X4F0-XX-UDD-FLL-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

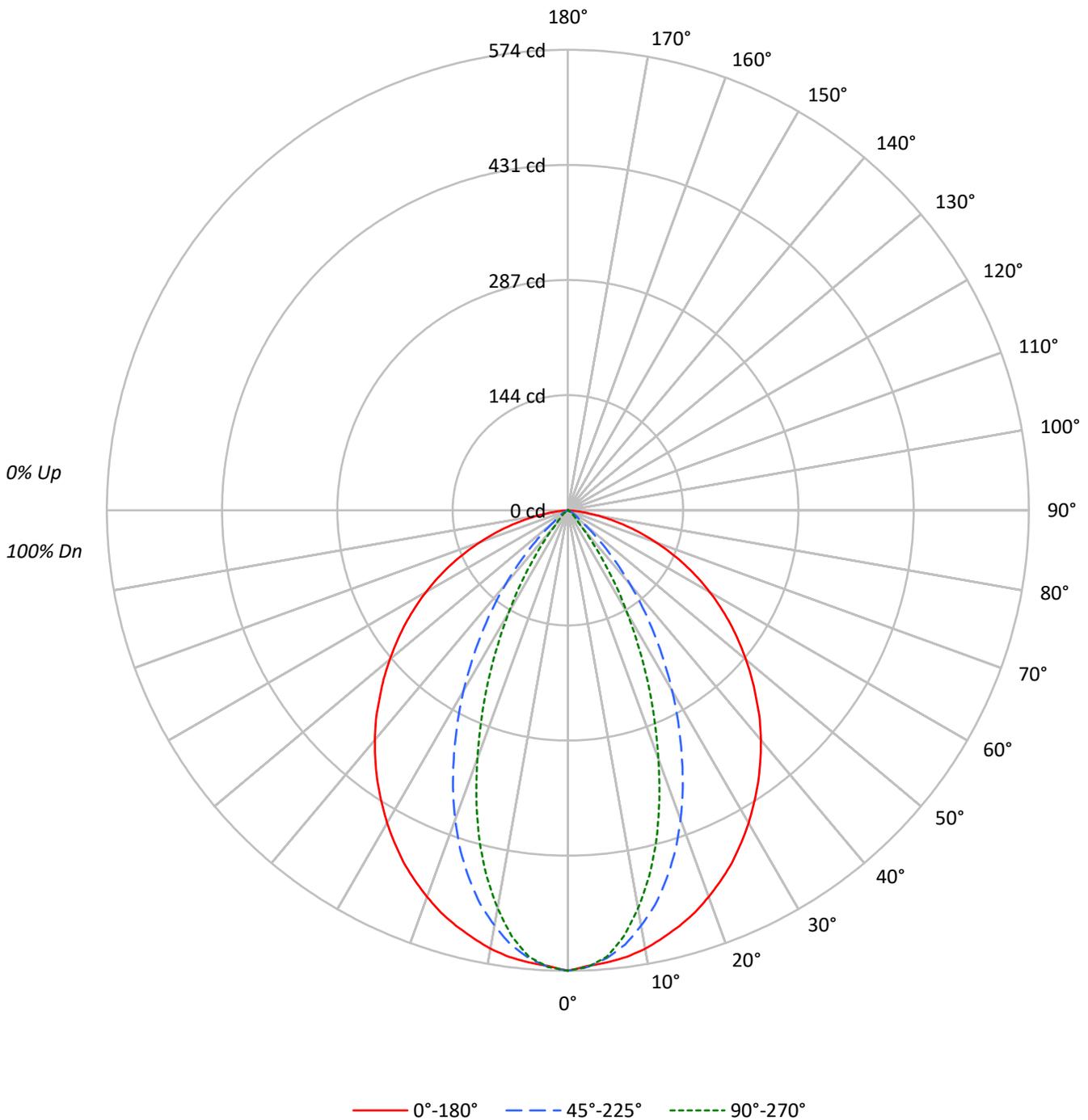
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 671.7 lumens  
Efficiency: N/A  
Efficacy: 38.8 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86  
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	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59
6	81	70	63	57	79	69	62	57	67	61	57	66	61	56	64	60	56	54
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40

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

	0°	45°	90°
0°	6919	6919	6919
5°	6845	6780	6758
10°	6793	6436	6166
15°	6695	5930	5313
20°	6577	5263	4231
25°	6439	4459	3121
30°	6266	3614	2046
35°	6082	2751	1122
40°	5885	1903	384
45°	5654	1107	223
50°	5426	435	133
55°	5194	275	63
60°	4924	171	29
65°	4584	86	17
70°	4114	42	21
75°	3494	28	28
80°	2604	42	0
85°	982	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5654 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.6	7.8
10°-20°	133.5	19.9
20°-30°	159.3	23.7
30°-40°	135.1	20.1
40°-50°	91.8	13.7
50°-60°	56.9	8.5
60°-70°	28.8	4.3
70°-80°	11.8	1.8
80°-90°	1.8	0.3
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°	345.4	51.4
0°-40°	480.6	71.5
0°-60°	629.3	93.7
0°-90°	671.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	671.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	574	574	574	574	574	
5°	566	571	560	556	558	54
15°	536	523	475	438	426	151
25°	484	439	335	259	235	223
35°	413	332	187	101	76	258
45°	332	217	65	16	13	256
55°	247	110	13	5	3	221
65°	161	27	3	1	1	159
75°	75	5	1	1	1	80
85°	7	0	0	1	0	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	573.9	573.9	573.9	573.9	573.9
2.5°	568.5	576.3	569.7	569.1	569.7
5°	565.6	570.9	560.2	556.0	558.4
7.5°	561.4	563.8	545.9	535.2	535.2
10°	554.9	553.1	525.7	507.8	503.7
12.5°	545.9	538.8	503.1	475.1	467.3
15°	536.4	522.7	475.1	437.6	425.7
17.5°	525.7	504.8	444.7	395.9	378.6
20°	512.6	484.6	410.2	350.7	329.8
22.5°	498.9	462.6	373.9	304.2	281.0
25°	484.0	438.8	335.2	259.0	234.6
27.5°	467.3	413.8	297.1	215.5	188.7
30°	450.1	387.6	259.6	173.8	147.0
32.5°	431.6	360.2	222.1	135.7	110.7
35°	413.2	331.6	186.9	100.6	76.2
37.5°	393.5	303.0	153.0	69.7	48.2
40°	373.9	275.0	120.9	44.1	24.4
42.5°	353.6	245.9	91.7	22.0	16.7
45°	331.6	217.3	64.9	16.1	13.1
47.5°	310.8	189.9	42.9	13.1	10.1
50°	289.3	162.5	23.2	9.5	7.1
52.5°	267.9	136.3	16.7	7.1	4.8
55°	247.1	109.5	13.1	4.8	3.0
57.5°	225.6	86.3	10.1	3.0	1.8
60°	204.2	63.7	7.1	1.8	1.2
62.5°	182.8	44.1	4.8	1.2	0.6
65°	160.7	26.8	3.0	0.6	0.6
67.5°	138.1	18.5	1.8	0.6	0.6
70°	116.7	13.1	1.2	0.6	0.6
72.5°	95.3	8.3	0.6	0.6	0.0
75°	75.0	4.8	0.6	0.6	0.6
77.5°	55.4	1.8	0.6	0.6	0.0
80°	37.5	0.6	0.6	0.6	0.0
82.5°	20.8	0.0	0.6	0.6	0.0
85°	7.1	0.0	0.0	0.6	0.0
87.5°	0.0	0.0	0.0	0.6	0.0
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	15.77	17.05	16.13	17.36	17.68	0.00	0.00	0.00	0.00	0.00
	3H	17.71	18.85	18.09	19.18	19.54	0.00	0.00	0.00	0.00	0.00
	4H	18.54	19.60	18.94	19.95	20.33	0.00	0.00	0.00	0.00	0.00
	6H	19.09	20.06	19.51	20.43	20.83	0.00	0.00	0.00	0.00	0.00
	8H	19.22	20.14	19.65	20.53	20.93	0.00	0.00	0.00	0.00	0.00
	12H	19.24	20.12	19.68	20.50	20.93	0.00	0.00	0.00	0.00	0.00
4H	2H	15.53	16.59	15.93	16.94	17.32	0.00	0.00	0.00	0.00	0.00
	3H	17.48	18.35	17.90	18.75	19.15	0.00	0.00	0.00	0.00	0.00
	4H	18.30	19.07	18.73	19.49	19.93	0.00	0.00	0.00	0.00	0.00
	6H	18.90	19.56	19.36	20.01	20.48	0.00	0.00	0.00	0.00	0.00
	8H	19.05	19.67	19.52	20.12	20.59	0.00	0.00	0.00	0.00	0.00
	12H	19.10	19.64	19.58	20.13	20.60	0.00	0.00	0.00	0.00	0.00
8H	4H	18.16	18.77	18.63	19.22	19.69	0.00	0.00	0.00	0.00	0.00
	6H	18.74	19.24	19.24	19.74	20.22	0.00	0.00	0.00	0.00	0.00
	8H	18.89	19.34	19.41	19.85	20.35	0.00	0.00	0.00	0.00	0.00
	12H	18.94	19.34	19.46	19.84	20.41	0.00	0.00	0.00	0.00	0.00
12H	4H	18.11	18.65	18.59	19.14	19.61	0.00	0.00	0.00	0.00	0.00
	6H	18.68	19.13	19.20	19.64	20.13	0.00	0.00	0.00	0.00	0.00
	8H	18.84	19.24	19.36	19.73	20.31	0.00	0.00	0.00	0.00	0.00