

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: P1055629

Luminaire Tested: S123R3DR-S560D830-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055629  
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-S560D830-X4F0-XX-UDD-F-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

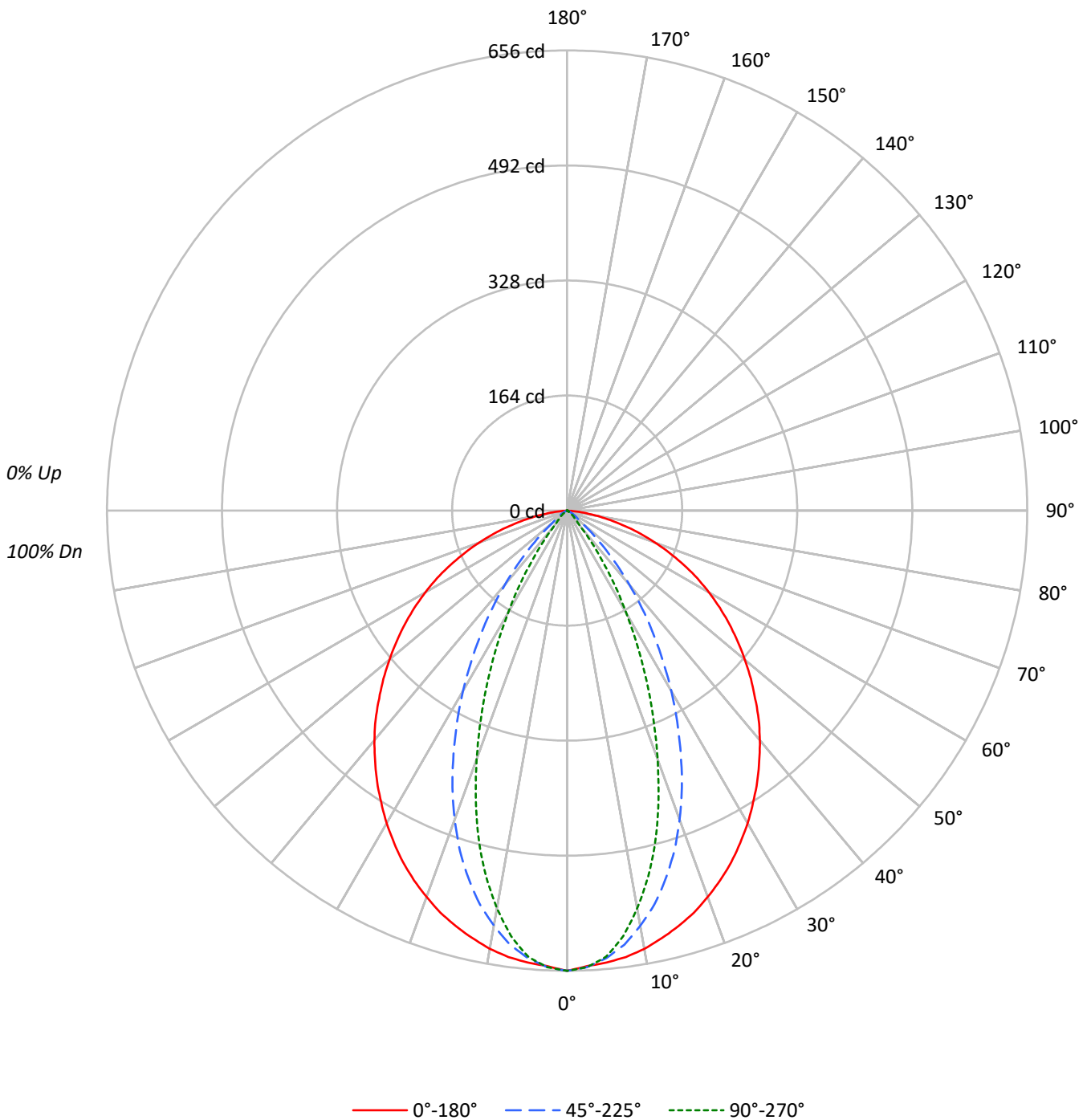
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 768.0 lumens  
Efficiency: N/A  
Efficacy: 40.2 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): 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

TEST NUMBER: P1055629

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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°	7910	7910	7910
5°	7825	7752	7726
10°	7767	7358	7049
15°	7655	6780	6075
20°	7518	6017	4838
25°	7362	5098	3568
30°	7164	4132	2340
35°	6953	3145	1282
40°	6727	2175	439
45°	6464	1265	256
50°	6205	497	154
55°	5938	315	71
60°	5630	198	34
65°	5243	97	20
70°	4702	49	25
75°	3997	33	33
80°	2979	49	0
85°	1134	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6464 cd/sqm



TEST NUMBER: P1055629

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	60.2	7.8
10°-20°	152.7	19.9
20°-30°	182.1	23.7
30°-40°	154.5	20.1
40°-50°	105.0	13.7
50°-60°	65.1	8.5
60°-70°	33.0	4.3
70°-80°	13.4	1.8
80°-90°	2.1	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°	394.9	51.4
0°-40°	549.4	71.5
0°-60°	719.5	93.7
0°-90°	768.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	768.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	656	656	656	656	656	
5°	647	653	640	636	638	61
15°	613	598	543	500	487	173
25°	553	502	383	296	268	255
35°	472	379	214	115	87	295
45°	379	248	74	18	15	293
55°	282	125	15	5	3	252
65°	184	31	3	1	1	182
75°	86	5	1	1	1	91
85°	8	0	0	1	0	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	656.1	656.1	656.1	656.1	656.1
2.5°	650.0	658.9	651.4	650.7	651.4
5°	646.6	652.7	640.5	635.7	638.4
7.5°	641.9	644.6	624.2	611.9	611.9
10°	634.4	632.3	601.0	580.6	575.8
12.5°	624.2	616.0	575.1	543.2	534.3
15°	613.3	597.6	543.2	500.3	486.7
17.5°	601.0	577.2	508.4	452.6	432.9
20°	586.0	554.0	469.0	400.9	377.1
22.5°	570.4	528.9	427.4	347.8	321.3
25°	553.4	501.6	383.2	296.1	268.2
27.5°	534.3	473.1	339.6	246.4	215.8
30°	514.6	443.1	296.8	198.7	168.1
32.5°	493.5	411.8	253.9	155.2	126.6
35°	472.4	379.1	213.7	115.0	87.1
37.5°	449.9	346.5	174.9	79.6	55.1
40°	427.4	314.5	138.2	50.4	27.9
42.5°	404.3	281.1	104.8	25.2	19.1
45°	379.1	248.4	74.2	18.4	15.0
47.5°	355.3	217.1	49.0	15.0	11.6
50°	330.8	185.8	26.5	10.9	8.2
52.5°	306.3	155.9	19.1	8.2	5.4
55°	282.5	125.2	15.0	5.4	3.4
57.5°	258.0	98.7	11.6	3.4	2.0
60°	233.5	72.8	8.2	2.0	1.4
62.5°	209.0	50.4	5.4	1.4	0.7
65°	183.8	30.6	3.4	0.7	0.7
67.5°	157.9	21.1	2.0	0.7	0.7
70°	133.4	15.0	1.4	0.7	0.7
72.5°	108.9	9.5	0.7	0.7	0.0
75°	85.8	5.4	0.7	0.7	0.7
77.5°	63.3	2.0	0.7	0.7	0.0
80°	42.9	0.7	0.7	0.7	0.0
82.5°	23.8	0.0	0.7	0.7	0.0
85°	8.2	0.0	0.0	0.7	0.0
87.5°	0.0	0.0	0.0	0.7	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	16.23	17.51	16.60	17.83	18.14	0.00	0.00	0.00	0.00	0.00
	3H	18.18	19.31	18.56	19.64	20.01	0.00	0.00	0.00	0.00	0.00
	4H	19.01	20.06	19.41	20.41	20.80	0.00	0.00	0.00	0.00	0.00
	6H	19.56	20.53	19.98	20.90	21.29	0.00	0.00	0.00	0.00	0.00
	8H	19.69	20.60	20.12	20.99	21.40	0.00	0.00	0.00	0.00	0.00
	12H	19.71	20.59	20.14	20.97	21.40	0.00	0.00	0.00	0.00	0.00
4H	2H	16.00	17.05	16.40	17.40	17.79	0.00	0.00	0.00	0.00	0.00
	3H	17.95	18.81	18.36	19.22	19.62	0.00	0.00	0.00	0.00	0.00
	4H	18.76	19.53	19.20	19.95	20.40	0.00	0.00	0.00	0.00	0.00
	6H	19.36	20.03	19.83	20.47	20.94	0.00	0.00	0.00	0.00	0.00
	8H	19.52	20.13	19.99	20.58	21.05	0.00	0.00	0.00	0.00	0.00
	12H	19.56	20.11	20.05	20.59	21.07	0.00	0.00	0.00	0.00	0.00
8H	4H	18.62	19.24	19.09	19.69	20.16	0.00	0.00	0.00	0.00	0.00
	6H	19.20	19.71	19.71	20.20	20.68	0.00	0.00	0.00	0.00	0.00
	8H	19.35	19.80	19.88	20.32	20.81	0.00	0.00	0.00	0.00	0.00
	12H	19.41	19.81	19.93	20.30	20.87	0.00	0.00	0.00	0.00	0.00
12H	4H	18.57	19.12	19.06	19.60	20.08	0.00	0.00	0.00	0.00	0.00
	6H	19.14	19.59	19.66	20.11	20.60	0.00	0.00	0.00	0.00	0.00
	8H	19.31	19.70	19.82	20.20	20.77	0.00	0.00	0.00	0.00	0.00