

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: P1055764

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

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055764
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-H560D830-X4F0-XX-UDD-FLL-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

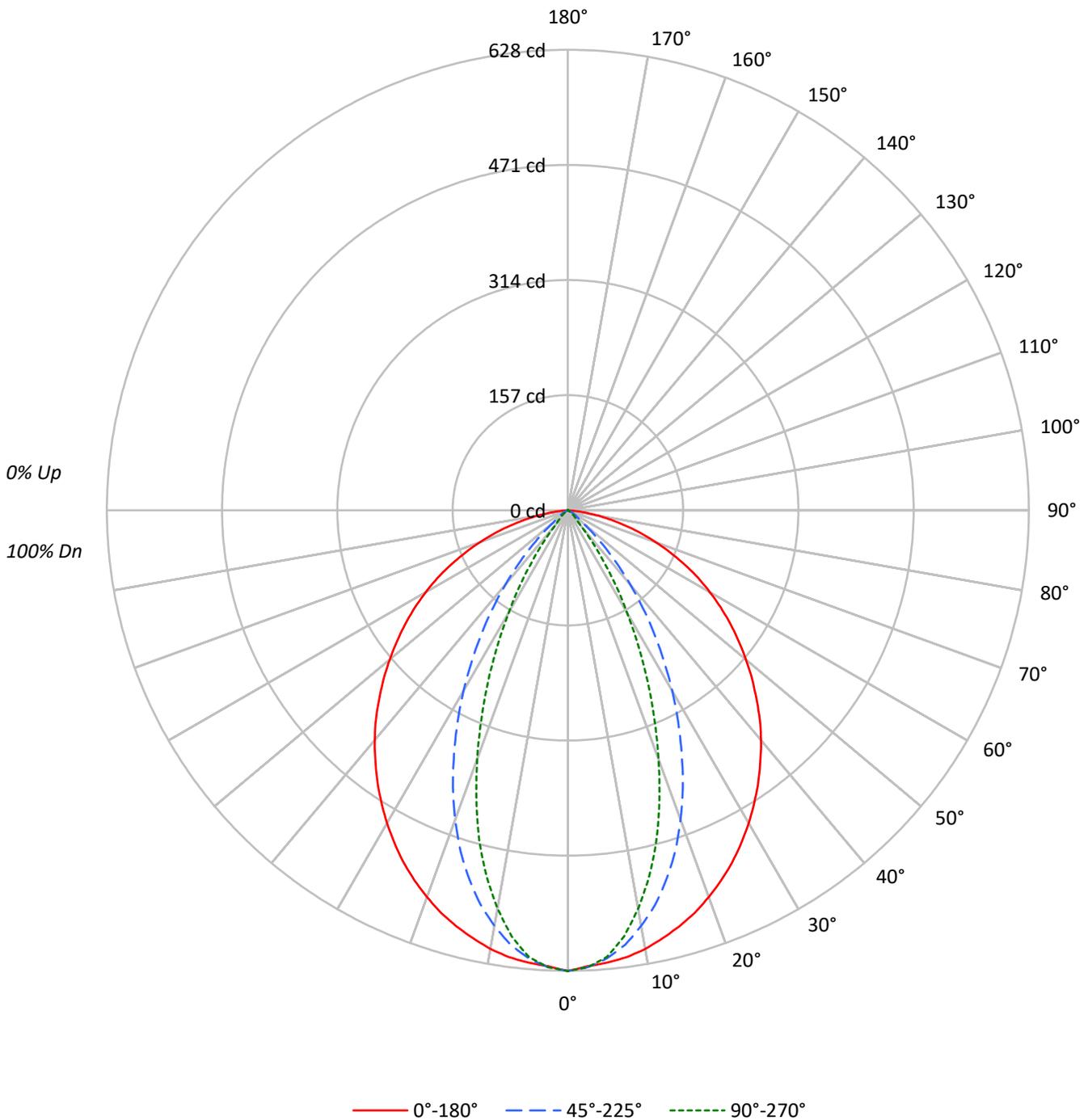
Lumens per Lamp: N/A
Luminaire Lumens: 735.3 lumens
Efficiency: N/A
Efficacy: 42.5 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
Input Voltage (V): 120
Input Current (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	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90					90			
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81					81			
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73					73			
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65					65			
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59					59			
6	81	70	63	57	79	69	62	57	67	61	57	66	60	56	64	60	56	54					54			
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50					50			
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46					46			
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43					43			
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40					40			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7575	7575	7575
5°	7493	7422	7398
10°	7436	7045	6750
15°	7329	6492	5816
20°	7199	5761	4633
25°	7048	4881	3416
30°	6859	3955	2241
35°	6657	3011	1227
40°	6442	2082	420
45°	6189	1211	244
50°	5940	476	146
55°	5686	301	69
60°	5389	188	31
65°	5021	94	20
70°	4501	46	25
75°	3824	33	33
80°	2854	49	0
85°	1079	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6189 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.6	7.8
10°-20°	146.2	19.9
20°-30°	174.4	23.7
30°-40°	147.9	20.1
40°-50°	100.5	13.7
50°-60°	62.3	8.5
60°-70°	31.6	4.3
70°-80°	12.9	1.8
80°-90°	2.0	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°	378.1	51.4
0°-40°	526.1	71.5
0°-60°	688.9	93.7
0°-90°	735.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	735.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	628	628	628	628	628	
5°	619	625	613	609	611	59
15°	587	572	520	479	466	165
25°	530	480	367	284	257	244
35°	452	363	205	110	83	283
45°	363	238	71	18	14	280
55°	270	120	14	5	3	242
65°	176	29	3	1	1	174
75°	82	5	1	1	1	87
85°	8	0	0	1	0	14
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	628.3	628.3	628.3	628.3	628.3
2.5°	622.4	630.9	623.7	623.0	623.7
5°	619.1	625.0	613.3	608.7	611.3
7.5°	614.6	617.2	597.6	585.9	585.9
10°	607.4	605.4	575.5	555.9	551.4
12.5°	597.6	589.8	550.7	520.1	511.6
15°	587.2	572.2	520.1	479.0	466.0
17.5°	575.5	552.7	486.8	433.4	414.5
20°	561.1	530.5	449.0	383.9	361.1
22.5°	546.1	506.4	409.3	333.0	307.6
25°	529.8	480.3	366.9	283.5	256.8
27.5°	511.6	452.9	325.2	235.9	206.6
30°	492.7	424.3	284.1	190.3	161.0
32.5°	472.5	394.3	243.1	148.6	121.2
35°	452.3	363.0	204.6	110.1	83.4
37.5°	430.8	331.7	167.5	76.3	52.8
40°	409.3	301.1	132.3	48.2	26.7
42.5°	387.1	269.2	100.4	24.1	18.2
45°	363.0	237.9	71.0	17.6	14.3
47.5°	340.2	207.9	46.9	14.3	11.1
50°	316.7	177.9	25.4	10.4	7.8
52.5°	293.3	149.2	18.2	7.8	5.2
55°	270.5	119.9	14.3	5.2	3.3
57.5°	247.0	94.5	11.1	3.3	2.0
60°	223.5	69.7	7.8	2.0	1.3
62.5°	200.1	48.2	5.2	1.3	0.7
65°	176.0	29.3	3.3	0.7	0.7
67.5°	151.2	20.2	2.0	0.7	0.7
70°	127.7	14.3	1.3	0.7	0.7
72.5°	104.3	9.1	0.7	0.7	0.0
75°	82.1	5.2	0.7	0.7	0.7
77.5°	60.6	2.0	0.7	0.7	0.0
80°	41.1	0.7	0.7	0.7	0.0
82.5°	22.8	0.0	0.7	0.7	0.0
85°	7.8	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	16.08	17.36	16.45	17.68	17.99	0.00	0.00	0.00	0.00	0.00
	3H	18.03	19.16	18.41	19.49	19.86	0.00	0.00	0.00	0.00	0.00
	4H	18.85	19.91	19.26	20.26	20.64	0.00	0.00	0.00	0.00	0.00
	6H	19.41	20.38	19.82	20.75	21.14	0.00	0.00	0.00	0.00	0.00
	8H	19.53	20.45	19.97	20.84	21.25	0.00	0.00	0.00	0.00	0.00
	12H	19.56	20.43	19.99	20.82	21.25	0.00	0.00	0.00	0.00	0.00
4H	2H	15.85	16.90	16.25	17.25	17.64	0.00	0.00	0.00	0.00	0.00
	3H	17.80	18.66	18.21	19.06	19.47	0.00	0.00	0.00	0.00	0.00
	4H	18.61	19.38	19.05	19.80	20.25	0.00	0.00	0.00	0.00	0.00
	6H	19.21	19.88	19.68	20.32	20.79	0.00	0.00	0.00	0.00	0.00
	8H	19.37	19.98	19.84	20.43	20.90	0.00	0.00	0.00	0.00	0.00
	12H	19.41	19.96	19.90	20.44	20.92	0.00	0.00	0.00	0.00	0.00
8H	4H	18.47	19.09	18.94	19.53	20.01	0.00	0.00	0.00	0.00	0.00
	6H	19.05	19.55	19.56	20.05	20.53	0.00	0.00	0.00	0.00	0.00
	8H	19.20	19.65	19.73	20.17	20.66	0.00	0.00	0.00	0.00	0.00
	12H	19.26	19.65	19.78	20.15	20.72	0.00	0.00	0.00	0.00	0.00
12H	4H	18.42	18.97	18.91	19.45	19.92	0.00	0.00	0.00	0.00	0.00
	6H	18.99	19.44	19.51	19.96	20.45	0.00	0.00	0.00	0.00	0.00
	8H	19.16	19.55	19.67	20.05	20.62	0.00	0.00	0.00	0.00	0.00