

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: P1055644

Luminaire Tested: S123R3DR-S560D930-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055644
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-S560D930-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, 90 CRI LEDS
Ballast/Driver: -

Summary

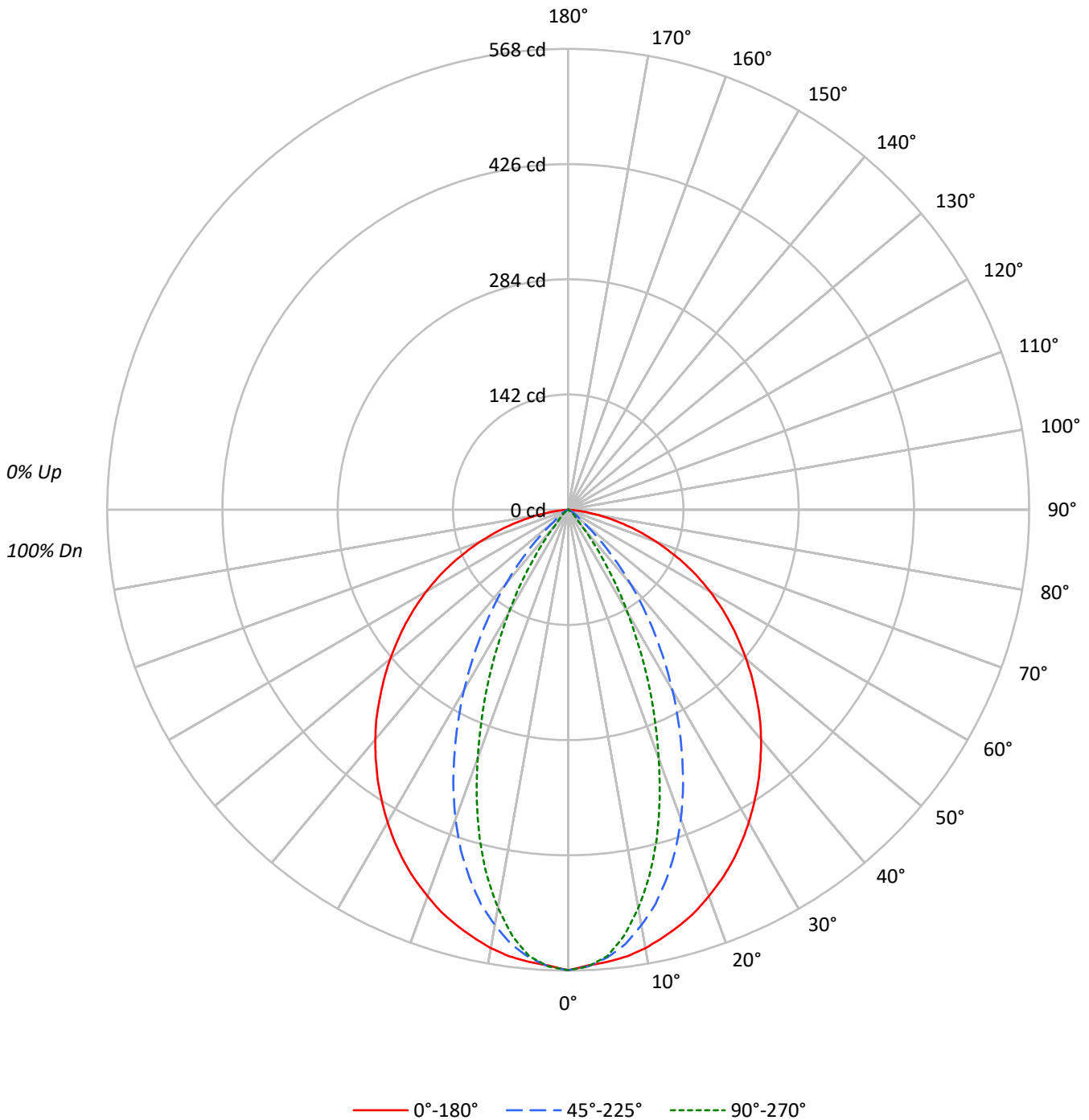
Lumens per Lamp: N/A
Luminaire Lumens: 664.3 lumens
Efficiency: N/A
Efficacy: 34.8 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 19.1
Input Voltage (V): 120
Input Current (A_{in}): 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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61
6	81	70	63	57	79	69	62	57	67	61	57	66	61	56	64	60	56
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6843	6843	6843
5°	6769	6705	6684
10°	6717	6365	6098
15°	6622	5864	5255
20°	6504	5205	4185
25°	6368	4410	3086
30°	6196	3574	2024
35°	6014	2721	1110
40°	5819	1881	379
45°	5591	1095	222
50°	5366	431	133
55°	5135	273	61
60°	4868	171	29
65°	4536	83	17
70°	4068	42	21
75°	3456	28	28
80°	2576	42	0
85°	982	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5591 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.0	7.8
10°-20°	132.1	19.9
20°-30°	157.5	23.7
30°-40°	133.6	20.1
40°-50°	90.8	13.7
50°-60°	56.3	8.5
60°-70°	28.5	4.3
70°-80°	11.6	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°	341.6	51.4
0°-40°	475.2	71.5
0°-60°	622.3	93.7
0°-90°	664.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	664.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	568	568	568	568	568	
5°	559	565	554	550	552	53
15°	530	517	470	433	421	150
25°	479	434	332	256	232	220
35°	409	328	185	100	75	255
45°	328	215	64	16	13	253
55°	244	108	13	5	3	218
65°	159	26	3	1	1	157
75°	74	5	1	1	1	79
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°	567.6	567.6	567.6	567.6	567.6
2.5°	562.3	569.9	563.4	562.9	563.4
5°	559.3	564.6	554.0	549.9	552.3
7.5°	555.2	557.6	539.9	529.3	529.3
10°	548.7	547.0	519.9	502.2	498.1
12.5°	539.9	532.8	497.5	469.8	462.2
15°	530.5	516.9	469.8	432.7	421.0
17.5°	519.9	499.3	439.8	391.5	374.5
20°	506.9	479.3	405.7	346.8	326.2
22.5°	493.4	457.5	369.7	300.9	277.9
25°	478.7	433.9	331.5	256.1	232.0
27.5°	462.2	409.2	293.8	213.1	186.6
30°	445.1	383.3	256.7	171.9	145.4
32.5°	426.9	356.2	219.6	134.2	109.5
35°	408.6	327.9	184.9	99.5	75.4
37.5°	389.2	299.7	151.3	68.9	47.7
40°	369.7	272.0	119.5	43.6	24.1
42.5°	349.7	243.2	90.7	21.8	16.5
45°	327.9	214.9	64.2	15.9	13.0
47.5°	307.3	187.8	42.4	13.0	10.0
50°	286.1	160.7	23.0	9.4	7.1
52.5°	264.9	134.8	16.5	7.1	4.7
55°	244.3	108.3	13.0	4.7	2.9
57.5°	223.1	85.4	10.0	2.9	1.8
60°	201.9	63.0	7.1	1.8	1.2
62.5°	180.7	43.6	4.7	1.2	0.6
65°	159.0	26.5	2.9	0.6	0.6
67.5°	136.6	18.3	1.8	0.6	0.6
70°	115.4	13.0	1.2	0.6	0.6
72.5°	94.2	8.2	0.6	0.6	0.0
75°	74.2	4.7	0.6	0.6	0.6
77.5°	54.8	1.8	0.6	0.6	0.0
80°	37.1	0.6	0.6	0.6	0.0
82.5°	20.6	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	15.73	17.01	16.10	17.32	17.64	0.00	0.00	0.00	0.00	0.00
	3H	17.68	18.81	18.06	19.14	19.51	0.00	0.00	0.00	0.00	0.00
	4H	18.50	19.56	18.91	19.91	20.29	0.00	0.00	0.00	0.00	0.00
	6H	19.06	20.03	19.47	20.40	20.79	0.00	0.00	0.00	0.00	0.00
	8H	19.18	20.10	19.61	20.49	20.90	0.00	0.00	0.00	0.00	0.00
	12H	19.21	20.08	19.64	20.47	20.90	0.00	0.00	0.00	0.00	0.00
4H	2H	15.49	16.55	15.90	16.90	17.28	0.00	0.00	0.00	0.00	0.00
	3H	17.45	18.31	17.86	18.71	19.12	0.00	0.00	0.00	0.00	0.00
	4H	18.26	19.03	18.70	19.45	19.89	0.00	0.00	0.00	0.00	0.00
	6H	18.86	19.53	19.33	19.97	20.44	0.00	0.00	0.00	0.00	0.00
	8H	19.01	19.63	19.49	20.08	20.55	0.00	0.00	0.00	0.00	0.00
	12H	19.06	19.61	19.55	20.09	20.56	0.00	0.00	0.00	0.00	0.00
8H	4H	18.12	18.74	18.59	19.18	19.66	0.00	0.00	0.00	0.00	0.00
	6H	18.70	19.20	19.20	19.70	20.18	0.00	0.00	0.00	0.00	0.00
	8H	18.85	19.30	19.37	19.82	20.31	0.00	0.00	0.00	0.00	0.00
	12H	18.91	19.30	19.42	19.80	20.37	0.00	0.00	0.00	0.00	0.00
12H	4H	18.07	18.61	18.56	19.10	19.57	0.00	0.00	0.00	0.00	0.00
	6H	18.64	19.09	19.16	19.60	20.10	0.00	0.00	0.00	0.00	0.00
	8H	18.81	19.20	19.32	19.70	20.27	0.00	0.00	0.00	0.00	0.00