

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: P1055645

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

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055645
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-S560D930-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

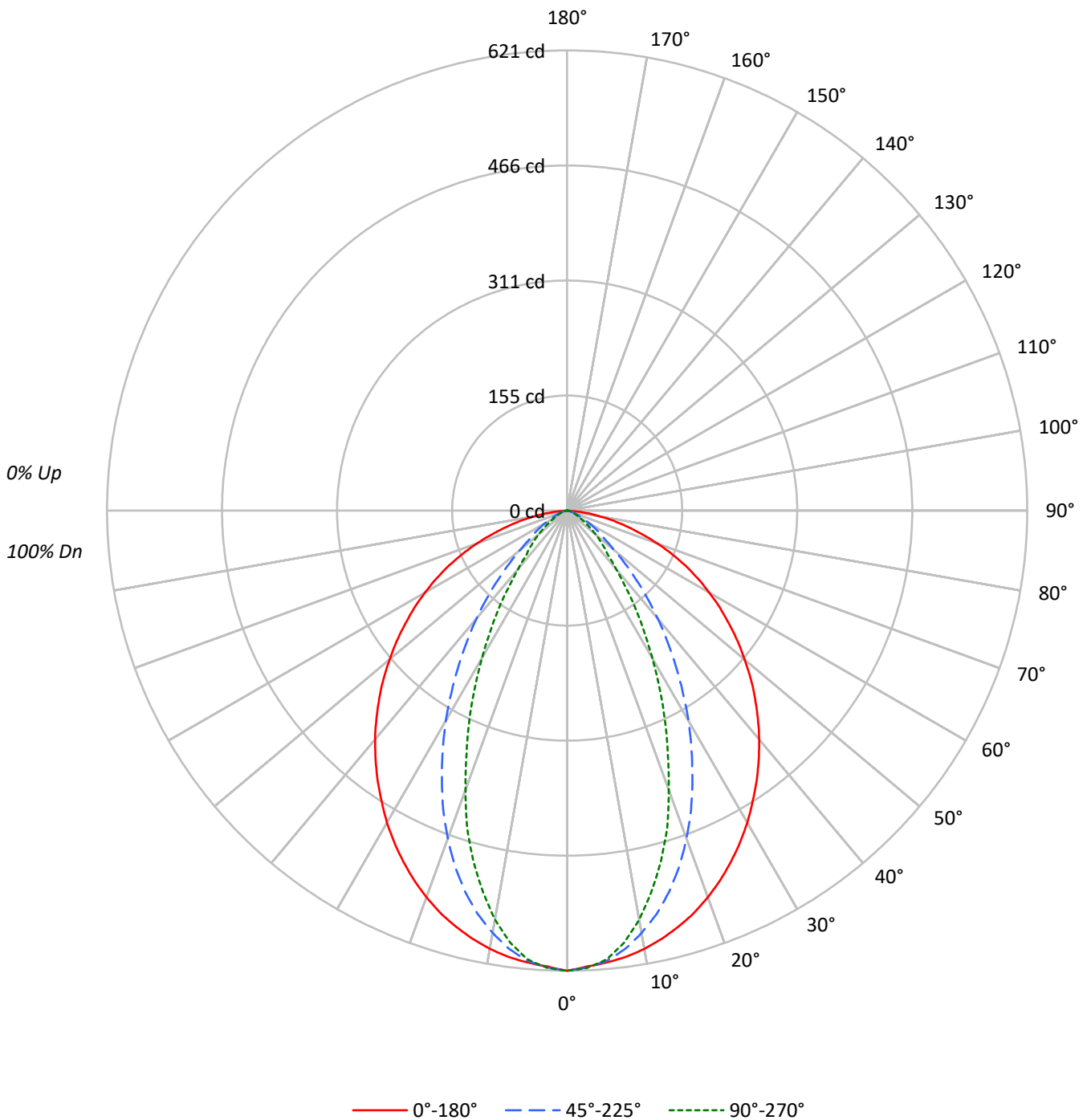
Lumens per Lamp: N/A
Luminaire Lumens: 863.8 lumens
Efficiency: N/A
Efficacy: 45.2 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 19.1
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°	7488	7488	7488
5°	7410	7383	7361
10°	7352	7086	6862
15°	7253	6643	6107
20°	7123	6043	5144
25°	6955	5318	4150
30°	6770	4558	3196
35°	6560	3760	2365
40°	6347	2993	1612
45°	6114	2239	1214
50°	5863	1557	949
55°	5606	1139	694
60°	5339	851	497
65°	5021	571	385
70°	4544	416	310
75°	3922	303	247
80°	3145	243	201
85°	1632	249	166

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6114 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.4	6.6
10°-20°	149.5	17.3
20°-30°	187.8	21.7
30°-40°	174.9	20.2
40°-50°	133.9	15.5
50°-60°	89.0	10.3
60°-70°	48.0	5.6
70°-80°	19.7	2.3
80°-90°	3.8	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°	394.7	45.7
0°-40°	569.6	65.9
0°-60°	792.4	91.7
0°-90°	863.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	863.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	621	621	621	621	621	
5°	612	619	610	608	608	58
15°	581	572	532	501	489	164
25°	523	488	400	333	312	241
35°	446	380	256	181	161	279
45°	359	265	131	77	71	277
55°	267	154	54	38	33	239
65°	176	60	20	15	14	174
75°	84	14	6	6	5	90
85°	12	2	2	2	1	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	621.1	621.1	621.1	621.1	621.1
2.5°	615.8	623.5	617.0	617.6	617.6
5°	612.3	618.8	610.0	607.6	608.2
7.5°	607.6	611.7	597.0	589.3	588.2
10°	600.5	601.7	578.8	565.2	560.5
12.5°	591.7	587.6	557.6	535.2	526.4
15°	581.1	571.7	532.2	501.0	489.3
17.5°	569.3	553.4	503.4	462.8	448.6
20°	555.2	532.8	471.0	420.4	400.9
22.5°	539.9	511.0	436.9	376.8	355.0
25°	522.8	487.5	399.8	333.2	312.0
27.5°	505.2	462.2	363.3	292.0	270.2
30°	486.3	436.3	327.4	252.0	229.6
32.5°	465.7	408.0	290.3	214.9	192.5
35°	445.7	379.8	255.5	180.7	160.7
37.5°	424.5	351.5	222.0	150.7	128.3
40°	403.3	322.6	190.2	121.3	102.4
42.5°	380.9	293.8	160.1	96.6	81.8
45°	358.6	264.9	131.3	77.1	71.2
47.5°	336.2	236.1	106.0	66.5	60.6
50°	312.6	208.4	83.0	56.5	50.6
52.5°	290.3	180.7	64.8	46.5	41.2
55°	266.7	154.3	54.2	37.7	33.0
57.5°	244.9	127.2	44.7	29.4	25.9
60°	221.4	103.0	35.3	23.0	20.6
62.5°	199.0	80.7	27.1	18.3	16.5
65°	176.0	59.5	20.0	14.7	13.5
67.5°	153.1	43.0	15.3	11.8	11.2
70°	128.9	32.4	11.8	9.4	8.8
72.5°	106.0	23.0	8.8	7.7	7.1
75°	84.2	14.1	6.5	5.9	5.3
77.5°	64.8	8.2	4.7	4.7	4.1
80°	45.3	4.7	3.5	3.5	2.9
82.5°	27.7	2.9	2.4	2.4	2.4
85°	11.8	1.8	1.8	1.8	1.2
87.5°	1.8	0.6	0.6	0.6	0.6
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	16.81	18.17	17.17	18.48	18.79	5.37	6.73	5.74	7.04	7.36
	3H	18.56	19.77	18.94	20.10	20.46	6.04	7.24	6.42	7.57	7.94
	4H	19.26	20.39	19.66	20.74	21.12	6.24	7.36	6.64	7.71	8.09
	6H	19.77	20.81	20.19	21.18	21.57	6.36	7.39	6.77	7.76	8.15
	8H	19.91	20.89	20.34	21.28	21.69	6.39	7.37	6.82	7.76	8.17
	12H	19.97	20.90	20.40	21.29	21.72	6.40	7.34	6.84	7.72	8.15
4H	2H	16.62	17.74	17.02	18.09	18.47	5.93	7.06	6.33	7.41	7.79
	3H	18.41	19.33	18.82	19.73	20.14	6.73	7.65	7.14	8.06	8.46
	4H	19.10	19.93	19.54	20.35	20.79	6.99	7.82	7.43	8.23	8.68
	6H	19.67	20.38	20.14	20.83	21.30	7.19	7.90	7.65	8.34	8.81
	8H	19.85	20.51	20.32	20.96	21.43	7.24	7.90	7.71	8.35	8.82
	12H	19.94	20.52	20.42	21.00	21.48	7.28	7.86	7.76	8.35	8.82
8H	4H	18.98	19.64	19.45	20.09	20.56	7.31	7.97	7.77	8.42	8.89
	6H	19.53	20.08	20.04	20.57	21.05	7.55	8.09	8.05	8.59	9.07
	8H	19.71	20.20	20.23	20.71	21.20	7.64	8.13	8.16	8.64	9.13
	12H	19.82	20.24	20.33	20.74	21.31	7.73	8.15	8.24	8.65	9.22
12H	4H	18.94	19.52	19.42	20.01	20.48	7.35	7.94	7.84	8.42	8.89
	6H	19.48	19.96	20.00	20.48	20.97	7.60	8.08	8.12	8.60	9.09
	8H	19.67	20.10	20.19	20.59	21.16	7.73	8.15	8.24	8.65	9.22