

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: P1055655

Luminaire Tested: S123R3DR-S560D950-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055655
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-S560D950-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

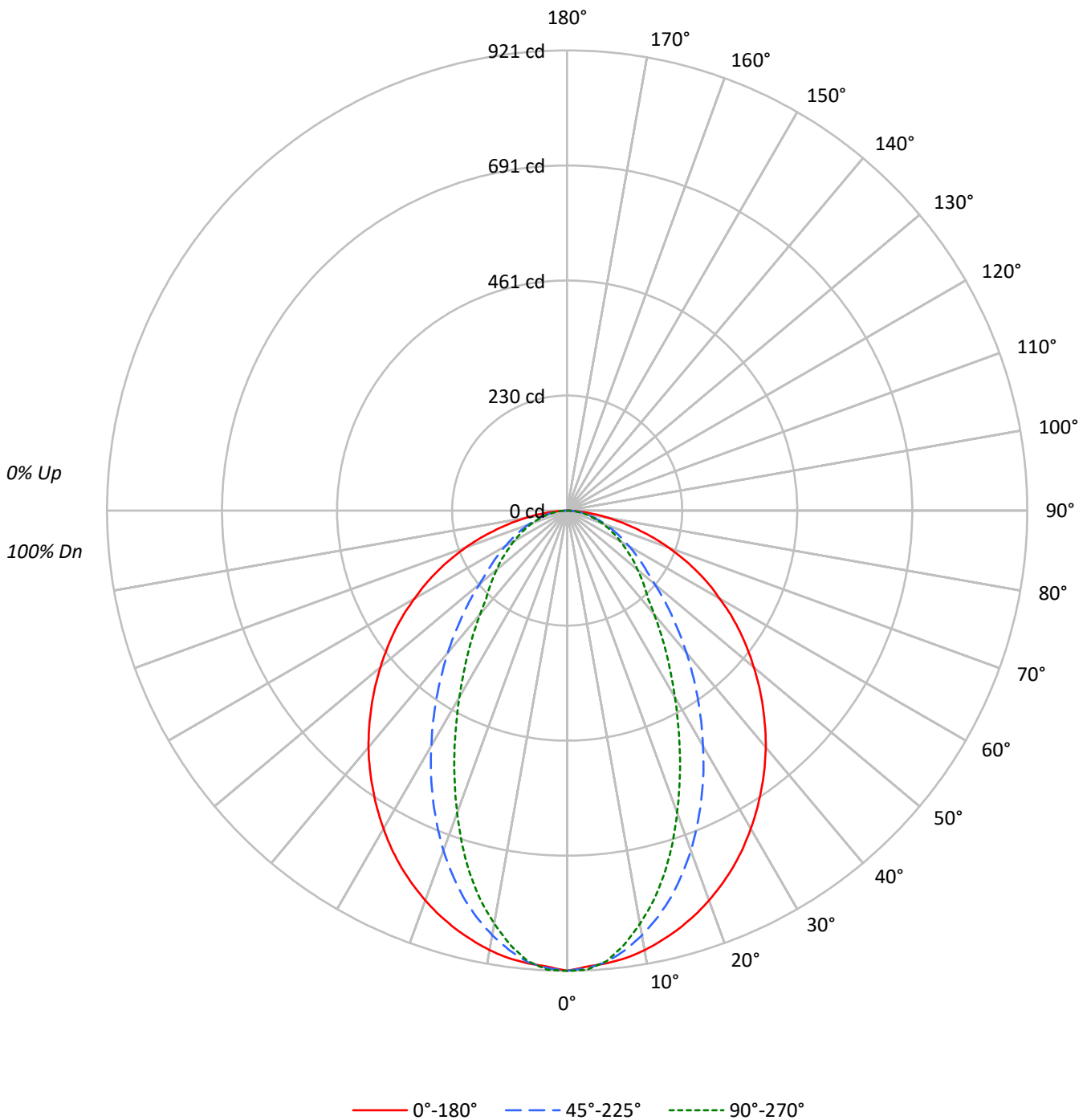
Lumens per Lamp: N/A
Luminaire Lumens: 1615.4 lumens
Efficiency: N/A
Efficacy: 84.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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					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	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86					86			
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74					74			
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65					65			
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57					57			
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50					50			
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45					45			
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40					40			
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37					37			
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34					34			
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31					31			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11105	11105	11105
5°	11006	10981	10955
10°	10939	10568	10281
15°	10809	10009	9390
20°	10652	9290	8256
25°	10467	8459	7102
30°	10234	7568	6004
35°	9988	6692	5070
40°	9737	5844	4260
45°	9444	5038	3760
50°	9149	4290	3449
55°	8877	3823	3187
60°	8505	3455	2973
65°	8156	3164	2790
70°	7600	2915	2623
75°	6806	2697	2469
80°	5832	2486	2298
85°	4095	2282	2186

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9444 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.4	5.3
10°-20°	225.9	14.0
20°-30°	297.6	18.4
30°-40°	302.0	18.7
40°-50°	262.5	16.3
50°-60°	205.7	12.7
60°-70°	139.7	8.7
70°-80°	75.7	4.7
80°-90°	20.8	1.3
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°	608.9	37.7
0°-40°	910.9	56.4
0°-60°	1379.1	85.4
0°-90°	1615.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1615.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	921	921	921	921	921	
5°	909	920	907	899	905	86
15°	866	854	802	763	752	244
25°	787	739	636	557	534	362
35°	679	598	455	368	344	424
45°	554	444	296	228	220	427
55°	422	294	182	155	152	377
65°	286	158	111	99	98	282
75°	146	73	58	54	53	156
85°	30	18	16	15	16	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	921.1	921.1	921.1	921.1	921.1
2.5°	913.5	925.2	916.3	917.0	919.7
5°	909.4	920.4	907.3	899.0	905.2
7.5°	903.2	911.4	887.3	874.2	876.3
10°	893.5	896.3	863.2	842.6	839.8
12.5°	880.4	875.6	834.3	804.0	799.2
15°	866.0	853.6	801.9	762.6	752.3
17.5°	849.4	828.8	764.0	715.8	699.9
20°	830.2	801.2	724.1	662.7	643.5
22.5°	809.5	772.3	680.7	608.3	588.3
25°	786.8	739.2	635.9	556.7	533.9
27.5°	761.9	706.1	590.4	505.7	480.2
30°	735.1	671.7	543.6	456.1	431.3
32.5°	707.5	635.2	498.8	409.9	385.8
35°	678.6	598.0	454.7	367.9	344.5
37.5°	649.0	560.1	412.0	327.9	305.9
40°	618.7	521.5	371.3	290.7	270.7
42.5°	586.3	482.9	332.1	255.6	240.4
45°	553.9	444.4	295.5	228.0	220.5
47.5°	521.5	405.1	261.1	208.7	201.9
50°	487.8	367.2	228.7	190.8	183.9
52.5°	454.7	330.0	201.9	173.6	168.8
55°	422.3	293.5	181.9	155.0	151.6
57.5°	388.6	257.7	161.9	140.5	136.4
60°	352.7	223.2	143.3	125.4	123.3
62.5°	320.3	190.8	126.8	112.3	110.2
65°	285.9	158.5	110.9	99.2	97.8
67.5°	250.8	131.6	96.4	86.8	86.1
70°	215.6	110.9	82.7	75.1	74.4
72.5°	181.2	91.6	69.6	64.8	63.4
75°	146.1	73.0	57.9	53.7	53.0
77.5°	114.4	56.5	46.2	43.4	42.7
80°	84.0	42.0	35.8	33.8	33.1
82.5°	55.1	28.9	25.5	24.1	24.1
85°	29.6	17.9	16.5	15.2	15.8
87.5°	10.3	7.6	7.6	6.9	7.6
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	18.92	20.42	19.29	20.73	21.04	14.07	15.56	14.44	15.88	16.19
	3H	20.81	22.15	21.19	22.48	22.84	15.70	17.04	16.08	17.36	17.73
	4H	21.57	22.82	21.97	23.17	23.55	16.33	17.59	16.73	17.94	18.32
	6H	22.13	23.29	22.54	23.66	24.05	16.82	17.98	17.24	18.35	18.74
	8H	22.30	23.41	22.73	23.80	24.20	16.99	18.10	17.42	18.49	18.89
	12H	22.40	23.46	22.83	23.84	24.27	17.12	18.18	17.55	18.56	18.99
4H	2H	18.97	20.23	19.37	20.57	20.95	14.80	16.05	15.20	16.40	16.78
	3H	20.99	22.03	21.40	22.43	22.83	16.62	17.66	17.03	18.06	18.47
	4H	21.80	22.74	22.24	23.16	23.60	17.37	18.31	17.80	18.72	19.16
	6H	22.49	23.30	22.94	23.75	24.21	17.98	18.79	18.43	19.24	19.70
	8H	22.72	23.48	23.18	23.92	24.39	18.19	18.95	18.65	19.40	19.87
	12H	22.87	23.55	23.35	24.03	24.50	18.36	19.04	18.84	19.52	19.99
8H	4H	21.83	22.59	22.29	23.04	23.50	17.75	18.51	18.21	18.96	19.43
	6H	22.56	23.19	23.05	23.68	24.16	18.48	19.11	18.98	19.60	20.08
	8H	22.83	23.39	23.34	23.90	24.39	18.77	19.33	19.28	19.84	20.33
	12H	23.03	23.53	23.54	24.03	24.59	19.01	19.51	19.52	20.00	20.57
12H	4H	21.81	22.49	22.30	22.97	23.45	17.80	18.49	18.29	18.96	19.44
	6H	22.54	23.11	23.05	23.62	24.11	18.56	19.13	19.08	19.64	20.13
	8H	22.85	23.35	23.36	23.84	24.40	18.91	19.41	19.42	19.90	20.47