

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: P1055653

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

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055653
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-S560D950-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

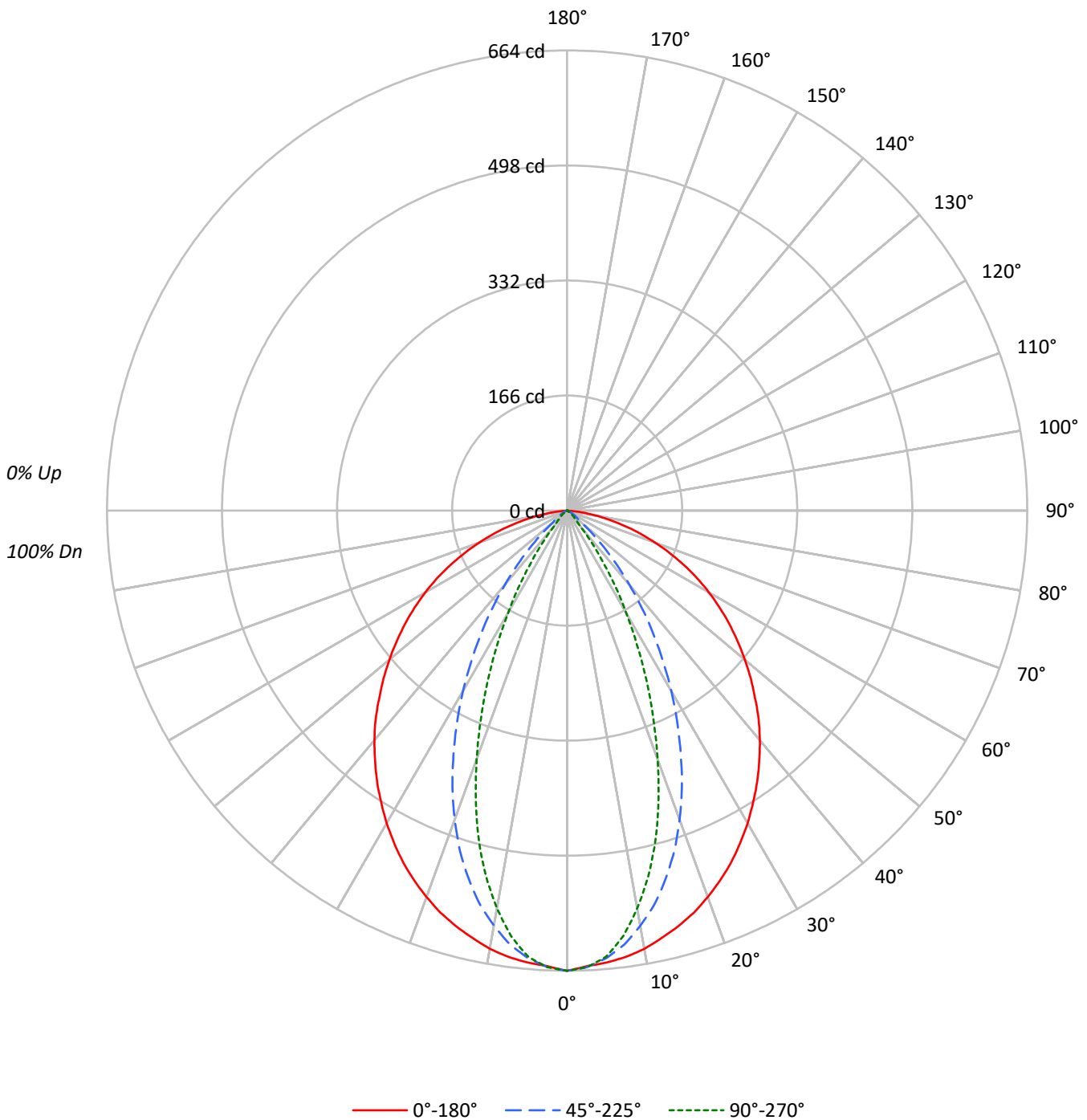
Lumens per Lamp: N/A
Luminaire Lumens: 777.3 lumens
Efficiency: N/A
Efficacy: 40.7 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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					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	61	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°	8007	8007	8007
5°	7921	7846	7821
10°	7861	7447	7135
15°	7747	6862	6148
20°	7611	6090	4897
25°	7451	5160	3610
30°	7250	4182	2369
35°	7037	3184	1298
40°	6808	2202	444
45°	6542	1280	259
50°	6280	505	156
55°	6010	319	71
60°	5698	200	34
65°	5306	97	20
70°	4759	49	25
75°	4043	33	33
80°	3013	49	0
85°	1148	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6542 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.9	7.8
10°-20°	154.5	19.9
20°-30°	184.3	23.7
30°-40°	156.4	20.1
40°-50°	106.3	13.7
50°-60°	65.9	8.5
60°-70°	33.4	4.3
70°-80°	13.6	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°	399.7	51.4
0°-40°	556.1	71.5
0°-60°	728.2	93.7
0°-90°	777.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	777.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	664	664	664	664	664	
5°	654	661	648	644	646	62
15°	621	605	550	506	493	175
25°	560	508	388	300	271	258
35°	478	384	216	116	88	299
45°	384	252	75	19	15	296
55°	286	127	15	6	3	255
65°	186	31	3	1	1	184
75°	87	6	1	1	1	92
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°	664.1	664.1	664.1	664.1	664.1
2.5°	657.9	666.9	659.3	658.6	659.3
5°	654.5	660.7	648.3	643.5	646.2
7.5°	649.7	652.4	631.7	619.3	619.3
10°	642.1	640.0	608.3	587.7	582.8
12.5°	631.7	623.5	582.1	549.8	540.8
15°	620.7	604.9	549.8	506.4	492.6
17.5°	608.3	584.2	514.6	458.1	438.2
20°	593.2	560.8	474.7	405.8	381.7
22.5°	577.3	535.3	432.6	352.0	325.2
25°	560.1	507.7	387.9	299.7	271.4
27.5°	540.8	478.8	343.8	249.4	218.4
30°	520.8	448.5	300.4	201.2	170.2
32.5°	499.5	416.8	257.0	157.1	128.1
35°	478.1	383.7	216.3	116.4	88.2
37.5°	455.4	350.7	177.1	80.6	55.8
40°	432.6	318.3	139.9	51.0	28.2
42.5°	409.2	284.5	106.1	25.5	19.3
45°	383.7	251.5	75.1	18.6	15.2
47.5°	359.6	219.8	49.6	15.2	11.7
50°	334.8	188.1	26.9	11.0	8.3
52.5°	310.0	157.8	19.3	8.3	5.5
55°	285.9	126.8	15.2	5.5	3.4
57.5°	261.1	99.9	11.7	3.4	2.1
60°	236.3	73.7	8.3	2.1	1.4
62.5°	211.5	51.0	5.5	1.4	0.7
65°	186.0	31.0	3.4	0.7	0.7
67.5°	159.8	21.4	2.1	0.7	0.7
70°	135.0	15.2	1.4	0.7	0.7
72.5°	110.2	9.6	0.7	0.7	0.0
75°	86.8	5.5	0.7	0.7	0.7
77.5°	64.1	2.1	0.7	0.7	0.0
80°	43.4	0.7	0.7	0.7	0.0
82.5°	24.1	0.0	0.7	0.7	0.0
85°	8.3	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	16.28	17.56	16.64	17.87	18.18	0.00	0.00	0.00	0.00	0.00
	3H	18.22	19.36	18.60	19.69	20.05	0.00	0.00	0.00	0.00	0.00
	4H	19.05	20.10	19.45	20.45	20.84	0.00	0.00	0.00	0.00	0.00
	6H	19.60	20.57	20.02	20.94	21.34	0.00	0.00	0.00	0.00	0.00
	8H	19.73	20.64	20.16	21.04	21.44	0.00	0.00	0.00	0.00	0.00
	12H	19.75	20.63	20.18	21.01	21.44	0.00	0.00	0.00	0.00	0.00
4H	2H	16.04	17.09	16.44	17.45	17.83	0.00	0.00	0.00	0.00	0.00
	3H	17.99	18.85	18.41	19.26	19.66	0.00	0.00	0.00	0.00	0.00
	4H	18.81	19.58	19.24	20.00	20.44	0.00	0.00	0.00	0.00	0.00
	6H	19.41	20.07	19.87	20.52	20.98	0.00	0.00	0.00	0.00	0.00
	8H	19.56	20.18	20.03	20.62	21.10	0.00	0.00	0.00	0.00	0.00
	12H	19.61	20.15	20.09	20.63	21.11	0.00	0.00	0.00	0.00	0.00
8H	4H	18.66	19.28	19.13	19.73	20.20	0.00	0.00	0.00	0.00	0.00
	6H	19.25	19.75	19.75	20.25	20.73	0.00	0.00	0.00	0.00	0.00
	8H	19.39	19.84	19.92	20.36	20.85	0.00	0.00	0.00	0.00	0.00
	12H	19.45	19.85	19.97	20.34	20.92	0.00	0.00	0.00	0.00	0.00
12H	4H	18.61	19.16	19.10	19.64	20.12	0.00	0.00	0.00	0.00	0.00
	6H	19.18	19.63	19.71	20.15	20.64	0.00	0.00	0.00	0.00	0.00
	8H	19.35	19.75	19.87	20.24	20.81	0.00	0.00	0.00	0.00	0.00