

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: P1055635

Luminaire Tested: S123R3DR-S560D840-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055635
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-S560D840-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

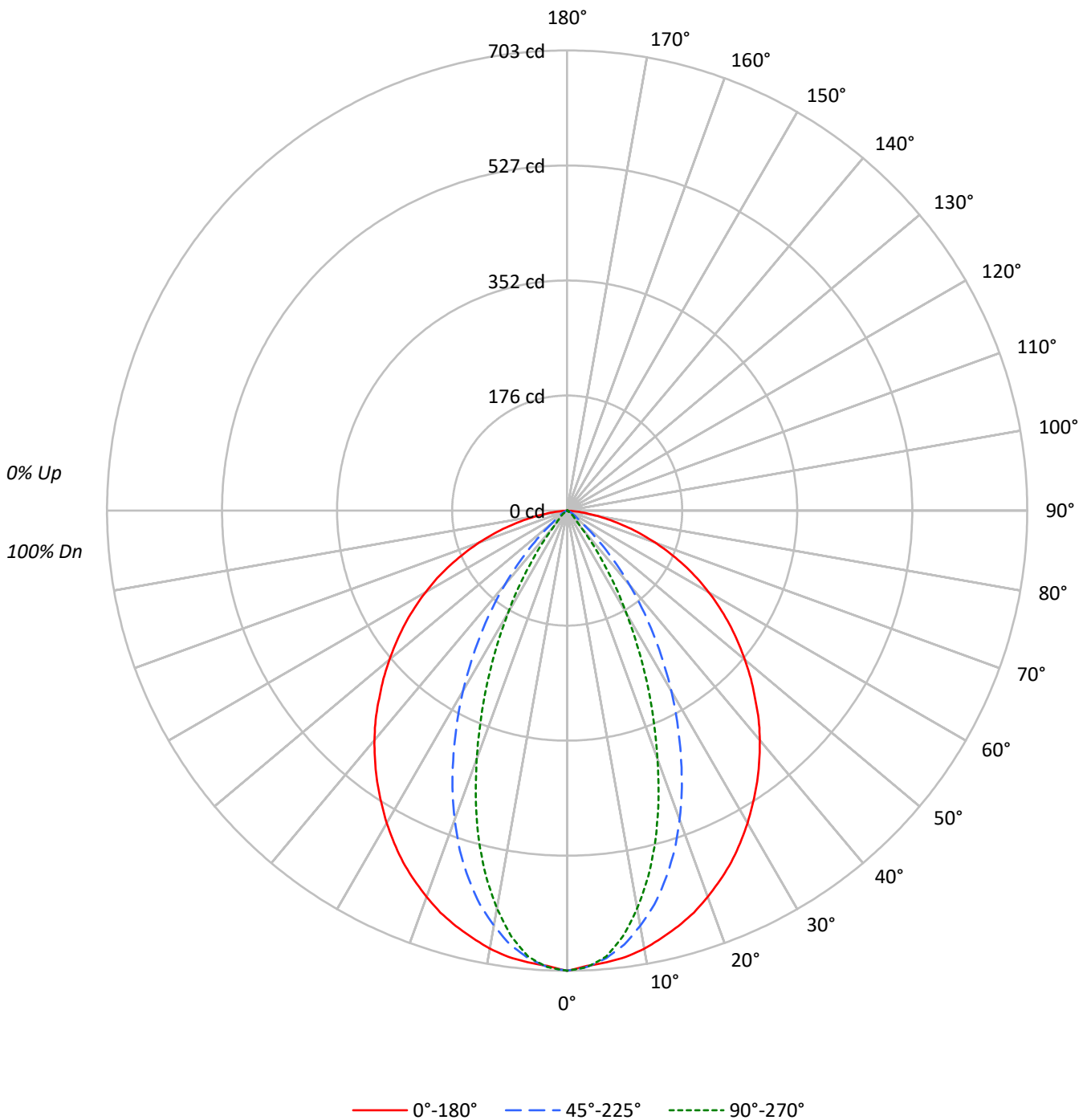
Lumens per Lamp: N/A
Luminaire Lumens: 822.7 lumens
Efficiency: N/A
Efficacy: 43.1 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P1055635

CATALOG NUMBER: S123R3DR-S560D840-X4F0-XX-UDD-F-B

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	58	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°	8476	8476	8476
5°	8385	8305	8279
10°	8321	7883	7554
15°	8202	7264	6508
20°	8056	6447	5183
25°	7887	5462	3822
30°	7675	4427	2507
35°	7449	3370	1373
40°	7208	2329	471
45°	6926	1356	273
50°	6647	533	165
55°	6361	336	76
60°	6031	212	36
65°	5617	103	20
70°	5037	53	25
75°	4281	33	33
80°	3187	49	0
85°	1217	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6926 cd/sqm



TEST NUMBER: P1055635

CATALOG NUMBER: S123R3DR-S560D840-X4F0-XX-UDD-F-B

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.5	7.8
10°-20°	163.6	19.9
20°-30°	195.1	23.7
30°-40°	165.5	20.1
40°-50°	112.5	13.7
50°-60°	69.7	8.5
60°-70°	35.3	4.3
70°-80°	14.4	1.7
80°-90°	2.2	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°	423.1	51.4
0°-40°	588.6	71.5
0°-60°	770.8	93.7
0°-90°	822.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	822.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	703	703	703	703	703	
5°	693	699	686	681	684	66
15°	657	640	582	536	521	185
25°	593	538	411	317	287	273
35°	506	406	229	123	93	316
45°	406	266	80	20	16	314
55°	303	134	16	6	4	270
65°	197	33	4	1	1	194
75°	92	6	1	1	1	98
85°	9	0	0	1	0	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	703.0	703.0	703.0	703.0	703.0
2.5°	696.4	705.9	697.9	697.2	697.9
5°	692.8	699.4	686.2	681.1	684.1
7.5°	687.7	690.6	668.7	655.6	655.6
10°	679.7	677.5	643.9	622.1	617.0
12.5°	668.7	660.0	616.2	582.0	572.5
15°	657.1	640.3	582.0	536.0	521.4
17.5°	643.9	618.4	544.8	485.0	463.8
20°	627.9	593.6	502.5	429.5	404.0
22.5°	611.1	566.6	458.0	372.7	344.2
25°	592.9	537.5	410.6	317.2	287.3
27.5°	572.5	506.8	363.9	264.0	231.2
30°	551.3	474.8	318.0	212.9	180.1
32.5°	528.7	441.2	272.0	166.3	135.6
35°	506.1	406.2	229.0	123.2	93.3
37.5°	482.0	371.2	187.4	85.3	59.1
40°	458.0	336.9	148.0	54.0	29.9
42.5°	433.2	301.2	112.3	27.0	20.4
45°	406.2	266.2	79.5	19.7	16.0
47.5°	380.7	232.6	52.5	16.0	12.4
50°	354.4	199.1	28.4	11.7	8.8
52.5°	328.2	167.0	20.4	8.8	5.8
55°	302.6	134.2	16.0	5.8	3.6
57.5°	276.4	105.7	12.4	3.6	2.2
60°	250.1	78.0	8.8	2.2	1.5
62.5°	223.9	54.0	5.8	1.5	0.7
65°	196.9	32.8	3.6	0.7	0.7
67.5°	169.2	22.6	2.2	0.7	0.7
70°	142.9	16.0	1.5	0.7	0.7
72.5°	116.7	10.2	0.7	0.7	0.0
75°	91.9	5.8	0.7	0.7	0.7
77.5°	67.8	2.2	0.7	0.7	0.0
80°	45.9	0.7	0.7	0.7	0.0
82.5°	25.5	0.0	0.7	0.7	0.0
85°	8.8	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	16.47	17.75	16.84	18.06	18.38	0.00	0.00	0.00	0.00	0.00
	3H	18.42	19.55	18.80	19.88	20.25	0.00	0.00	0.00	0.00	0.00
	4H	19.24	20.30	19.65	20.65	21.04	0.00	0.00	0.00	0.00	0.00
	6H	19.80	20.77	20.21	21.14	21.53	0.00	0.00	0.00	0.00	0.00
	8H	19.92	20.84	20.35	21.23	21.64	0.00	0.00	0.00	0.00	0.00
	12H	19.95	20.82	20.38	21.21	21.64	0.00	0.00	0.00	0.00	0.00
4H	2H	16.24	17.29	16.64	17.64	18.03	0.00	0.00	0.00	0.00	0.00
	3H	18.19	19.05	18.60	19.46	19.86	0.00	0.00	0.00	0.00	0.00
	4H	19.00	19.77	19.44	20.19	20.64	0.00	0.00	0.00	0.00	0.00
	6H	19.60	20.27	20.07	20.71	21.18	0.00	0.00	0.00	0.00	0.00
	8H	19.75	20.37	20.23	20.82	21.29	0.00	0.00	0.00	0.00	0.00
	12H	19.80	20.35	20.29	20.83	21.30	0.00	0.00	0.00	0.00	0.00
8H	4H	18.86	19.48	19.33	19.93	20.40	0.00	0.00	0.00	0.00	0.00
	6H	19.44	19.94	19.95	20.44	20.92	0.00	0.00	0.00	0.00	0.00
	8H	19.59	20.04	20.11	20.56	21.05	0.00	0.00	0.00	0.00	0.00
	12H	19.65	20.04	20.16	20.54	21.11	0.00	0.00	0.00	0.00	0.00
12H	4H	18.81	19.36	19.30	19.84	20.31	0.00	0.00	0.00	0.00	0.00
	6H	19.38	19.83	19.90	20.34	20.84	0.00	0.00	0.00	0.00	0.00
	8H	19.55	19.94	20.06	20.44	21.01	0.00	0.00	0.00	0.00	0.00