

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: P1055637

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

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055637
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-S560D840-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

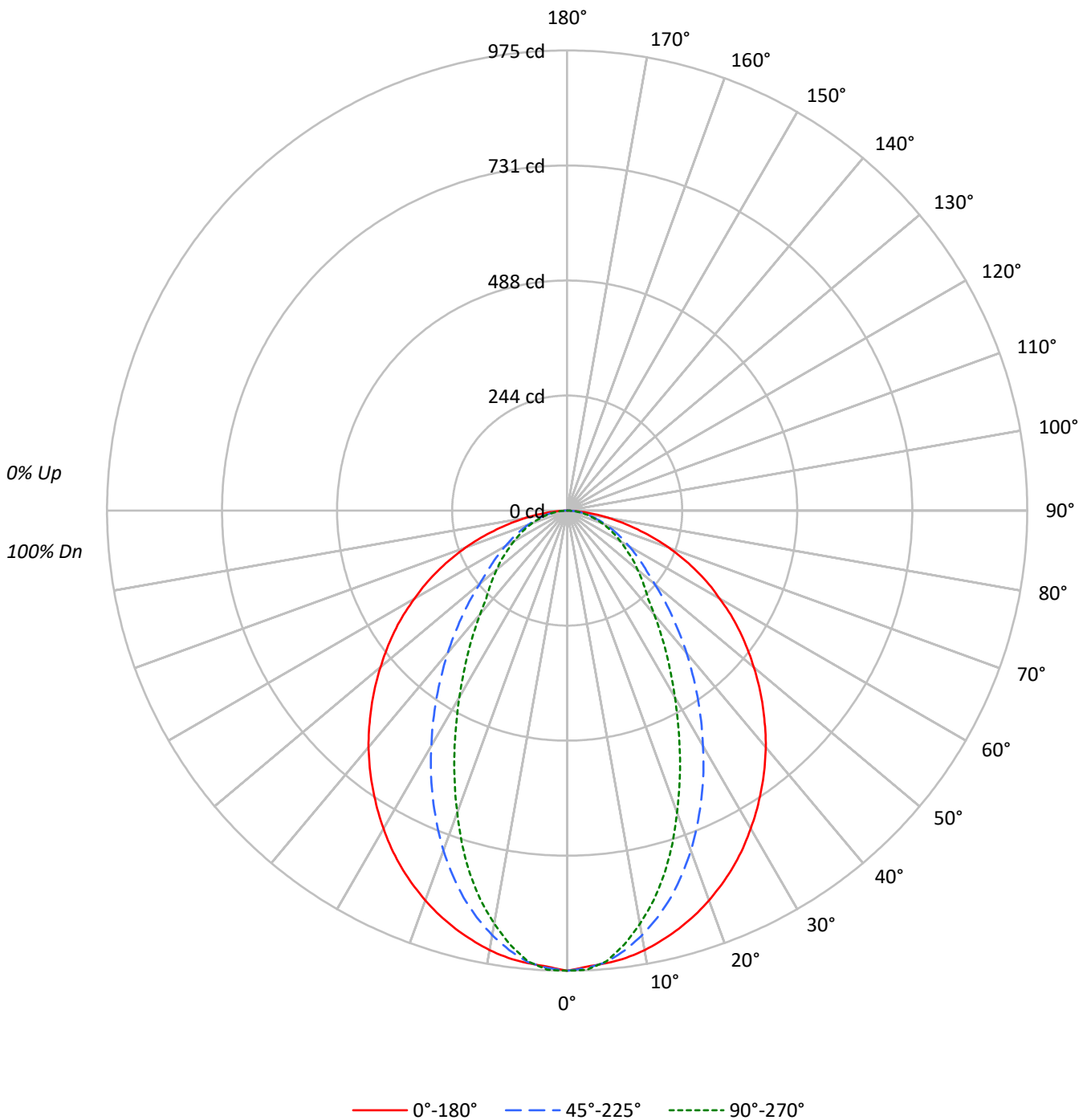
Lumens per Lamp: N/A
Luminaire Lumens: 1710.1 lumens
Efficiency: N/A
Efficacy: 89.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11755	11755	11755
5°	11650	11623	11598
10°	11580	11187	10883
15°	11442	10596	9940
20°	11275	9834	8739
25°	11079	8954	7519
30°	10832	8010	6355
35°	10572	7084	5366
40°	10307	6187	4511
45°	9997	5335	3980
50°	9684	4541	3652
55°	9396	4046	3372
60°	9004	3658	3147
65°	8633	3349	2955
70°	8048	3084	2778
75°	7202	2855	2618
80°	6179	2631	2430
85°	4344	2421	2324

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9997 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.4	5.3
10°-20°	239.1	14.0
20°-30°	315.0	18.4
30°-40°	319.7	18.7
40°-50°	277.9	16.3
50°-60°	217.7	12.7
60°-70°	147.9	8.7
70°-80°	80.2	4.7
80°-90°	22.1	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°	644.5	37.7
0°-40°	964.2	56.4
0°-60°	1459.9	85.4
0°-90°	1710.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1710.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	975	975	975	975	975	
5°	963	974	960	952	958	91
15°	917	904	849	807	796	258
25°	833	782	673	589	565	383
35°	718	633	481	389	365	449
45°	586	470	313	241	233	452
55°	447	311	192	164	160	399
65°	303	168	117	105	104	299
75°	155	77	61	57	56	165
85°	31	19	18	16	17	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	975.0	975.0	975.0	975.0	975.0
2.5°	967.0	979.4	969.9	970.7	973.6
5°	962.6	974.3	960.4	951.7	958.3
7.5°	956.1	964.8	939.3	925.4	927.6
10°	945.9	948.8	913.8	891.9	889.0
12.5°	932.0	926.9	883.1	851.1	845.9
15°	916.7	903.6	848.9	807.3	796.4
17.5°	899.2	877.3	808.8	757.7	740.9
20°	878.8	848.1	766.5	701.6	681.1
22.5°	856.9	817.5	720.5	643.9	622.8
25°	832.8	782.5	673.1	589.2	565.2
27.5°	806.6	747.5	625.0	535.3	508.3
30°	778.1	711.0	575.4	482.8	456.5
32.5°	749.0	672.4	528.0	433.9	408.4
35°	718.3	633.0	481.3	389.4	364.6
37.5°	687.0	592.9	436.1	347.1	323.8
40°	654.9	552.1	393.1	307.8	286.6
42.5°	620.6	511.2	351.5	270.6	254.5
45°	586.3	470.4	312.9	241.4	233.4
47.5°	552.1	428.8	276.4	221.0	213.7
50°	516.3	388.7	242.1	202.0	194.7
52.5°	481.3	349.3	213.7	183.8	178.7
55°	447.0	310.7	192.5	164.1	160.4
57.5°	411.3	272.7	171.4	148.8	144.4
60°	373.4	236.3	151.7	132.7	130.5
62.5°	339.1	202.0	134.2	118.9	116.7
65°	302.6	167.7	117.4	105.0	103.6
67.5°	265.5	139.3	102.1	91.9	91.2
70°	228.3	117.4	87.5	79.5	78.8
72.5°	191.8	97.0	73.7	68.6	67.1
75°	154.6	77.3	61.3	56.9	56.2
77.5°	121.1	59.8	48.9	45.9	45.2
80°	89.0	44.5	37.9	35.7	35.0
82.5°	58.3	30.6	27.0	25.5	25.5
85°	31.4	19.0	17.5	16.0	16.8
87.5°	10.9	8.0	8.0	7.3	8.0
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	19.12	20.61	19.48	20.92	21.24	14.27	15.76	14.64	16.08	16.39
	3H	21.01	22.35	21.38	22.67	23.04	15.90	17.24	16.28	17.56	17.93
	4H	21.76	23.02	22.16	23.37	23.75	16.54	17.79	16.94	18.14	18.52
	6H	22.33	23.49	22.74	23.85	24.25	17.02	18.18	17.44	18.55	18.94
	8H	22.50	23.60	22.93	23.99	24.40	17.19	18.30	17.62	18.69	19.09
	12H	22.60	23.65	23.03	24.04	24.47	17.32	18.38	17.75	18.76	19.19
4H	2H	19.17	20.42	19.57	20.77	21.15	15.00	16.25	15.40	16.60	16.98
	3H	21.18	22.23	21.59	22.63	23.03	16.82	17.86	17.23	18.26	18.66
	4H	22.00	22.94	22.43	23.36	23.80	17.57	18.51	18.00	18.92	19.36
	6H	22.68	23.50	23.14	23.94	24.40	18.17	18.99	18.63	19.43	19.89
	8H	22.91	23.68	23.38	24.12	24.59	18.39	19.15	18.85	19.60	20.06
	12H	23.07	23.75	23.55	24.23	24.70	18.56	19.24	19.04	19.72	20.19
8H	4H	22.02	22.79	22.49	23.23	23.70	17.95	18.71	18.41	19.16	19.63
	6H	22.75	23.38	23.25	23.88	24.35	18.68	19.31	19.17	19.80	20.28
	8H	23.02	23.59	23.54	24.10	24.59	18.96	19.53	19.48	20.04	20.53
	12H	23.23	23.73	23.74	24.22	24.79	19.21	19.71	19.72	20.20	20.77
12H	4H	22.01	22.69	22.49	23.17	23.64	18.00	18.69	18.49	19.16	19.64
	6H	22.74	23.30	23.25	23.82	24.30	18.76	19.33	19.27	19.84	20.32
	8H	23.04	23.54	23.55	24.04	24.60	19.11	19.61	19.62	20.10	20.66