

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: P1055604

Luminaire Tested: S123R3DR-S340D830-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055604
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-S340D830-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

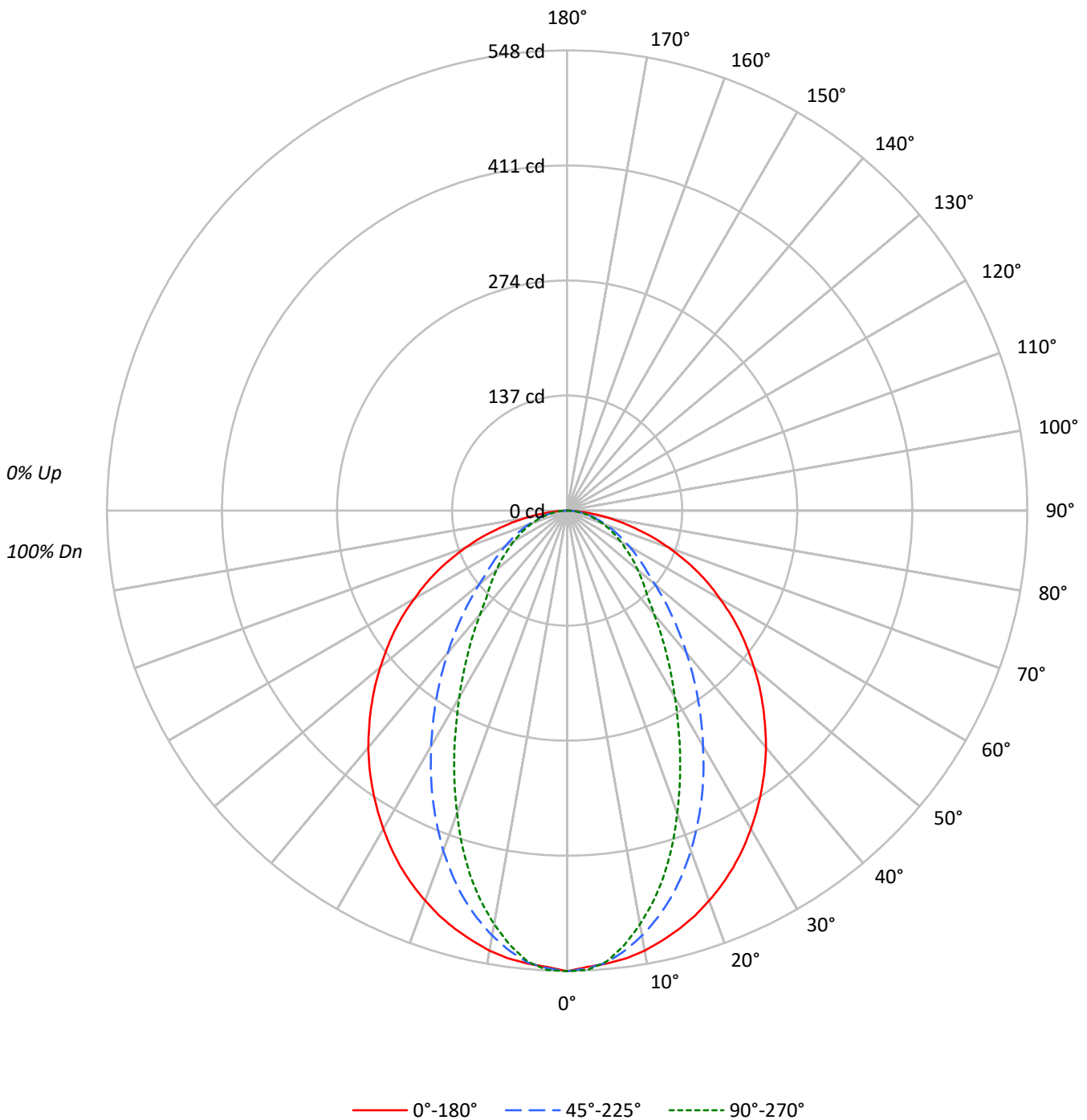
Lumens per Lamp: N/A
Luminaire Lumens: 962.0 lumens
Efficiency: N/A
Efficacy: 76.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
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	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°	6613	6613	6613
5°	6553	6539	6524
10°	6514	6293	6122
15°	6437	5960	5592
20°	6343	5532	4917
25°	6232	5038	4229
30°	6093	4506	3575
35°	5948	3986	3019
40°	5798	3480	2537
45°	5623	3001	2239
50°	5449	2555	2054
55°	5286	2276	1898
60°	5064	2057	1770
65°	4858	1886	1663
70°	4526	1734	1562
75°	4053	1607	1472
80°	3478	1479	1368
85°	2435	1356	1300

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5623 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.8	5.3
10°-20°	134.5	14.0
20°-30°	177.2	18.4
30°-40°	179.9	18.7
40°-50°	156.3	16.3
50°-60°	122.5	12.7
60°-70°	83.2	8.7
70°-80°	45.1	4.7
80°-90°	12.4	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°	362.6	37.7
0°-40°	542.4	56.4
0°-60°	821.3	85.4
0°-90°	962.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	962.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	548	548	548	548	548	
5°	542	548	540	535	539	51
15°	516	508	478	454	448	145
25°	468	440	379	332	318	216
35°	404	356	271	219	205	253
45°	330	265	176	136	131	255
55°	252	175	108	92	90	224
65°	170	94	66	59	58	168
75°	87	44	34	32	32	93
85°	18	11	10	9	9	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	548.5	548.5	548.5	548.5	548.5
2.5°	544.0	551.0	545.6	546.0	547.7
5°	541.5	548.1	540.3	535.4	539.1
7.5°	537.8	542.8	528.4	520.6	521.8
10°	532.1	533.7	514.0	501.7	500.1
12.5°	524.3	521.4	496.8	478.8	475.9
15°	515.7	508.3	477.5	454.1	448.0
17.5°	505.8	493.5	455.0	426.2	416.8
20°	494.4	477.1	431.2	394.7	383.2
22.5°	482.0	459.9	405.3	362.3	350.4
25°	468.5	440.2	378.7	331.5	317.9
27.5°	453.7	420.5	351.6	301.1	285.9
30°	437.7	400.0	323.7	271.6	256.8
32.5°	421.3	378.3	297.0	244.1	229.7
35°	404.1	356.1	270.8	219.1	205.1
37.5°	386.5	333.5	245.3	195.3	182.2
40°	368.4	310.6	221.1	173.1	161.2
42.5°	349.1	287.6	197.7	152.2	143.2
45°	329.8	264.6	176.0	135.8	131.3
47.5°	310.6	241.2	155.5	124.3	120.2
50°	290.5	218.7	136.2	113.6	109.5
52.5°	270.8	196.5	120.2	103.4	100.5
55°	251.5	174.8	108.3	92.3	90.3
57.5°	231.4	153.4	96.4	83.7	81.2
60°	210.0	132.9	85.3	74.7	73.4
62.5°	190.8	113.6	75.5	66.9	65.6
65°	170.3	94.4	66.1	59.1	58.3
67.5°	149.3	78.4	57.4	51.7	51.3
70°	128.4	66.1	49.2	44.7	44.3
72.5°	107.9	54.6	41.4	38.6	37.7
75°	87.0	43.5	34.5	32.0	31.6
77.5°	68.1	33.6	27.5	25.8	25.4
80°	50.1	25.0	21.3	20.1	19.7
82.5°	32.8	17.2	15.2	14.4	14.4
85°	17.6	10.7	9.8	9.0	9.4
87.5°	6.2	4.5	4.5	4.1	4.5
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	17.12	18.61	17.49	18.93	19.24	12.27	13.76	12.64	14.08	14.39
	3H	19.01	20.35	19.39	20.67	21.04	13.90	15.24	14.28	15.57	15.93
	4H	19.76	21.02	20.16	21.37	21.75	14.53	15.79	14.94	16.14	16.52
	6H	20.33	21.49	20.74	21.86	22.25	15.02	16.18	15.44	16.55	16.94
	8H	20.50	21.61	20.93	22.00	22.40	15.19	16.30	15.62	16.69	17.09
	12H	20.60	21.66	21.03	22.04	22.47	15.32	16.38	15.75	16.76	17.19
4H	2H	17.17	18.42	17.57	18.77	19.15	13.00	14.26	13.40	14.60	14.98
	3H	19.18	20.23	19.60	20.63	21.03	14.82	15.86	15.23	16.26	16.67
	4H	20.00	20.94	20.44	21.36	21.80	15.57	16.51	16.00	16.92	17.36
	6H	20.69	21.50	21.14	21.95	22.41	16.17	16.99	16.63	17.43	17.89
	8H	20.92	21.68	21.38	22.12	22.59	16.39	17.15	16.85	17.60	18.07
	12H	21.07	21.75	21.55	22.23	22.70	16.56	17.24	17.04	17.72	18.19
8H	4H	20.03	20.79	20.49	21.23	21.70	15.95	16.71	16.41	17.16	17.63
	6H	20.76	21.39	21.25	21.88	22.36	16.68	17.31	17.17	17.80	18.28
	8H	21.02	21.59	21.54	22.10	22.59	16.97	17.53	17.48	18.04	18.53
	12H	21.23	21.73	21.74	22.23	22.79	17.21	17.71	17.72	18.20	18.77
12H	4H	20.01	20.69	20.49	21.17	21.64	16.00	16.69	16.49	17.16	17.64
	6H	20.74	21.31	21.25	21.82	22.30	16.76	17.33	17.27	17.84	18.32
	8H	21.04	21.54	21.55	22.04	22.60	17.11	17.61	17.62	18.10	18.67