

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: P1055748

Luminaire Tested: S123R3DR-H340D850-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055748
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-H340D850-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

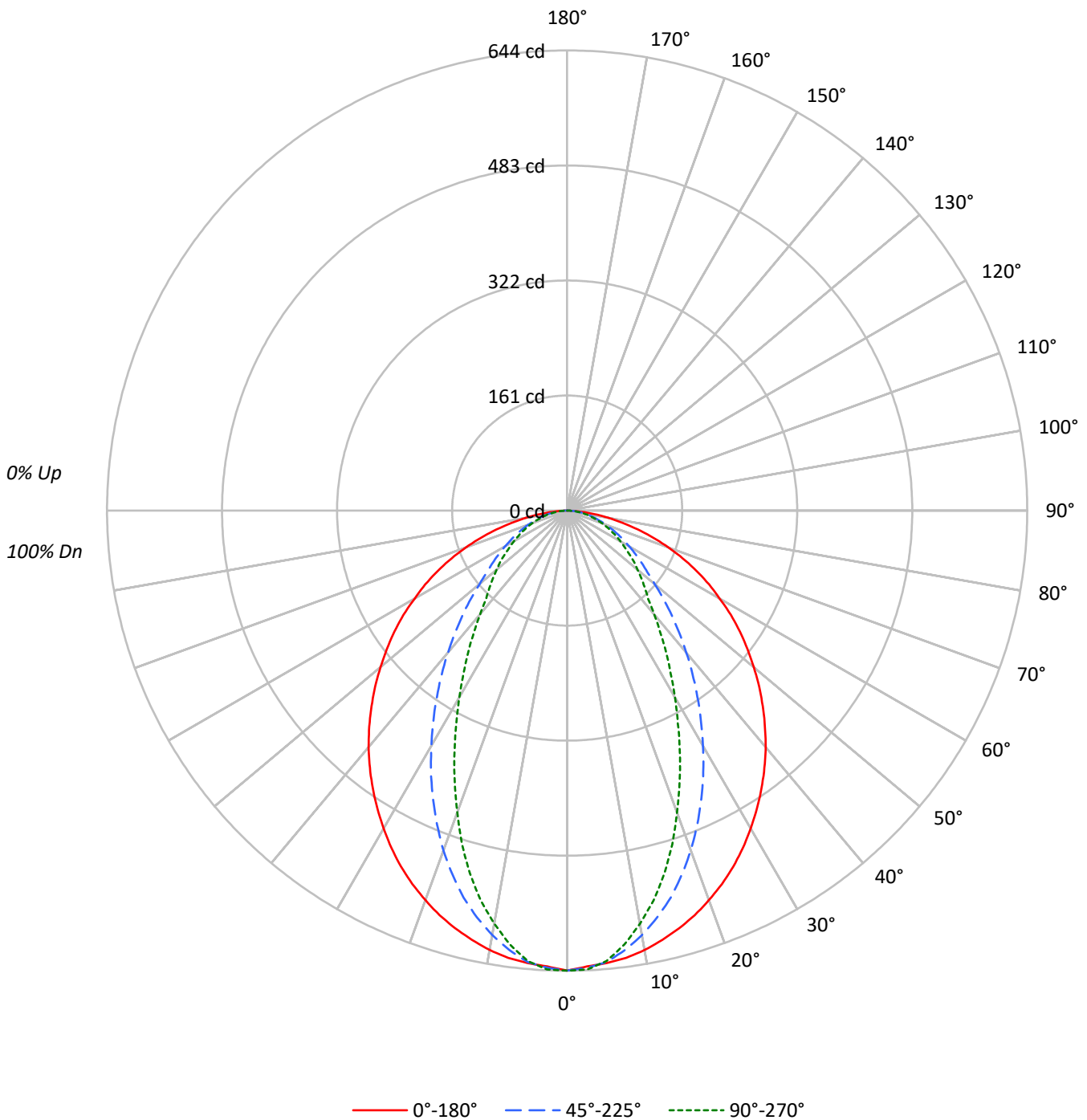
Lumens per Lamp: N/A
Luminaire Lumens: 1129.1 lumens
Efficiency: N/A
Efficacy: 96.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
Input Voltage (V): 120
Input Current (Ain): 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°	7762	7762	7762
5°	7692	7675	7657
10°	7645	7386	7186
15°	7555	6996	6563
20°	7444	6493	5770
25°	7315	5912	4965
30°	7153	5289	4196
35°	6981	4677	3544
40°	6805	4084	2978
45°	6600	3523	2627
50°	6394	2999	2412
55°	6205	2672	2226
60°	5944	2416	2079
65°	5700	2211	1951
70°	5312	2037	1833
75°	4756	1882	1728
80°	4076	1736	1604
85°	2863	1605	1535

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6600 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.7	5.3
10°-20°	157.9	14.0
20°-30°	208.0	18.4
30°-40°	211.1	18.7
40°-50°	183.5	16.3
50°-60°	143.8	12.7
60°-70°	97.7	8.7
70°-80°	52.9	4.7
80°-90°	14.6	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°	425.6	37.7
0°-40°	636.7	56.4
0°-60°	963.9	85.4
0°-90°	1129.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1129.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	644	644	644	644	644	
5°	636	643	634	628	633	60
15°	605	597	560	533	526	171
25°	550	517	444	389	373	253
35°	474	418	318	257	241	297
45°	387	311	207	159	154	299
55°	295	205	127	108	106	263
65°	200	111	78	69	68	197
75°	102	51	40	38	37	109
85°	21	12	12	11	11	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	643.8	643.8	643.8	643.8	643.8
2.5°	638.5	646.7	640.4	640.9	642.8
5°	635.6	643.3	634.2	628.4	632.7
7.5°	631.3	637.0	620.2	611.0	612.5
10°	624.5	626.5	603.3	588.9	587.0
12.5°	615.4	612.0	583.1	561.9	558.6
15°	605.3	596.6	560.5	533.0	525.8
17.5°	593.7	579.3	534.0	500.3	489.2
20°	580.2	560.0	506.1	463.2	449.7
22.5°	565.8	539.8	475.7	425.2	411.2
25°	549.9	516.7	444.4	389.1	373.2
27.5°	532.6	493.6	412.7	353.4	335.6
30°	513.8	469.5	379.9	318.8	301.4
32.5°	494.5	444.0	348.6	286.5	269.7
35°	474.3	418.0	317.8	257.1	240.8
37.5°	453.6	391.5	287.9	229.2	213.8
40°	432.4	364.5	259.5	203.2	189.2
42.5°	409.8	337.5	232.1	178.6	168.1
45°	387.1	310.6	206.6	159.4	154.1
47.5°	364.5	283.1	182.5	145.9	141.1
50°	340.9	256.6	159.9	133.4	128.6
52.5°	317.8	230.6	141.1	121.3	118.0
55°	295.2	205.1	127.1	108.3	105.9
57.5°	271.6	180.1	113.2	98.2	95.3
60°	246.5	156.0	100.2	87.6	86.2
62.5°	223.9	133.4	88.6	78.5	77.0
65°	199.8	110.7	77.5	69.3	68.4
67.5°	175.3	92.0	67.4	60.7	60.2
70°	150.7	77.5	57.8	52.5	52.0
72.5°	126.6	64.0	48.6	45.3	44.3
75°	102.1	51.0	40.4	37.6	37.1
77.5°	79.9	39.5	32.3	30.3	29.9
80°	58.7	29.4	25.0	23.6	23.1
82.5°	38.5	20.2	17.8	16.9	16.9
85°	20.7	12.5	11.6	10.6	11.1
87.5°	7.2	5.3	5.3	4.8	5.3
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	17.68	19.17	18.04	19.48	19.80	12.83	14.32	13.19	14.63	14.94
	3H	19.56	20.90	19.94	21.23	21.59	14.45	15.79	14.83	16.12	16.48
	4H	20.32	21.58	20.72	21.93	22.30	15.09	16.35	15.49	16.70	17.08
	6H	20.88	22.04	21.30	22.41	22.80	15.58	16.74	15.99	17.11	17.50
	8H	21.06	22.16	21.48	22.55	22.95	15.75	16.86	16.18	17.25	17.65
	12H	21.15	22.21	21.59	22.59	23.02	15.88	16.93	16.31	17.32	17.75
4H	2H	17.72	18.98	18.12	19.33	19.71	13.55	14.81	13.95	15.16	15.54
	3H	19.74	20.78	20.15	21.19	21.59	15.38	16.42	15.79	16.82	17.22
	4H	20.56	21.50	20.99	21.91	22.35	16.12	17.06	16.56	17.48	17.92
	6H	21.24	22.06	21.70	22.50	22.96	16.73	17.55	17.19	17.99	18.45
	8H	21.47	22.23	21.93	22.68	23.15	16.95	17.71	17.41	18.16	18.62
	12H	21.62	22.30	22.11	22.78	23.25	17.12	17.80	17.60	18.28	18.75
8H	4H	20.58	21.35	21.05	21.79	22.26	16.51	17.27	16.97	17.71	18.18
	6H	21.31	21.94	21.81	22.43	22.91	17.23	17.87	17.73	18.36	18.83
	8H	21.58	22.15	22.09	22.66	23.14	17.52	18.09	18.04	18.60	19.09
	12H	21.79	22.29	22.30	22.78	23.35	17.77	18.27	18.28	18.76	19.33
12H	4H	20.57	21.25	21.05	21.73	22.20	16.56	17.24	17.04	17.72	18.19
	6H	21.30	21.86	21.81	22.37	22.86	17.32	17.88	17.83	18.39	18.88
	8H	21.60	22.10	22.11	22.59	23.16	17.67	18.16	18.18	18.66	19.22