

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: P1055640

Luminaire Tested: S123R3DR-S560D850-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055640
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-S560D850-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

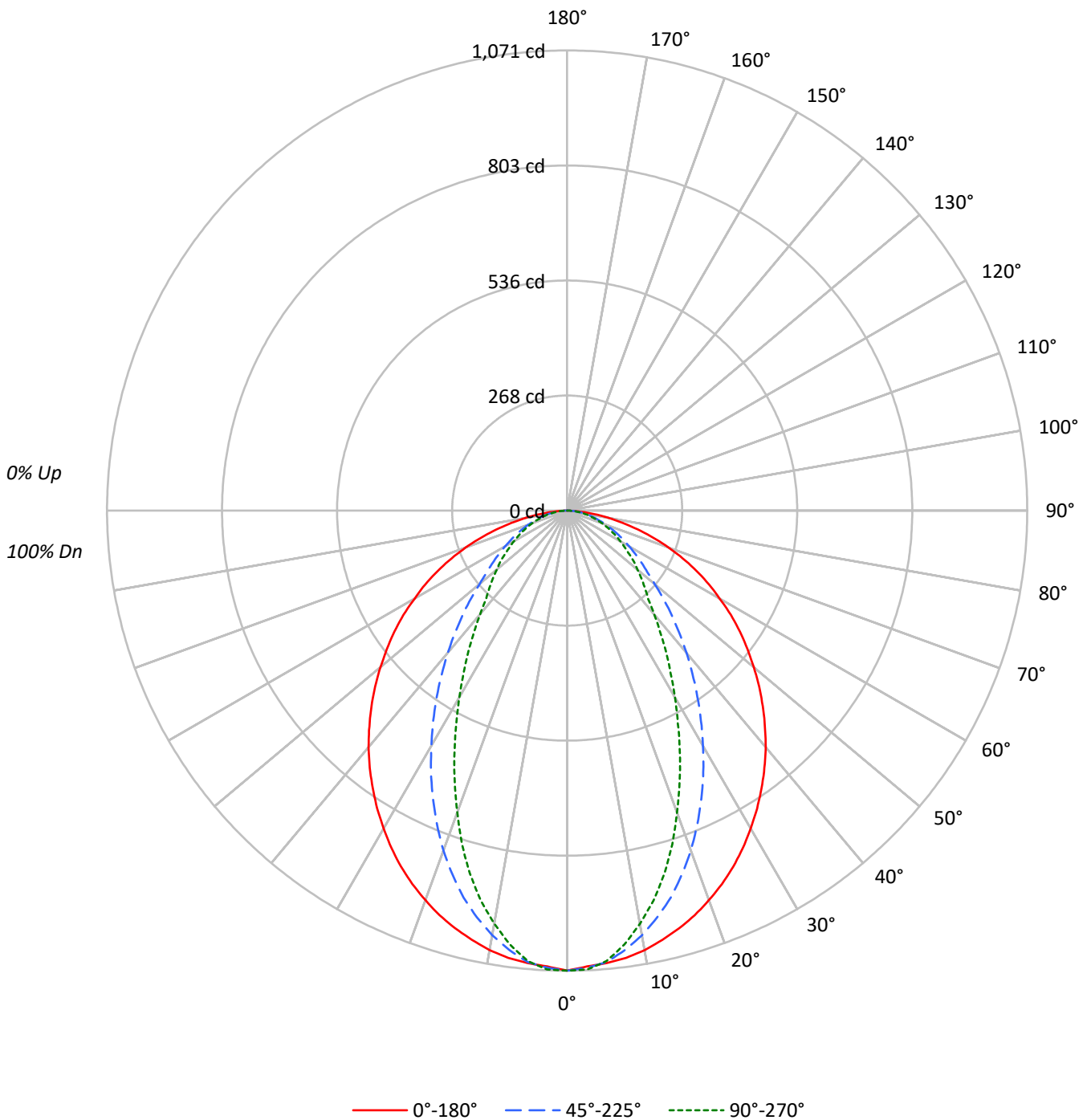
Lumens per Lamp: N/A
Luminaire Lumens: 1877.9 lumens
Efficiency: N/A
Efficacy: 98.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	12909	12909	12909
5°	12794	12764	12735
10°	12716	12285	11951
15°	12565	11635	10915
20°	12381	10799	9597
25°	12167	9833	8257
30°	11896	8797	6979
35°	11610	7780	5893
40°	11319	6794	4953
45°	10979	5858	4370
50°	10635	4987	4010
55°	10319	4444	3704
60°	9886	4017	3458
65°	9483	3677	3244
70°	8837	3388	3049
75°	7910	3135	2874
80°	6783	2888	2666
85°	4759	2656	2545

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10979 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.3	5.3
10°-20°	262.6	14.0
20°-30°	345.9	18.4
30°-40°	351.1	18.7
40°-50°	305.2	16.3
50°-60°	239.1	12.7
60°-70°	162.4	8.7
70°-80°	88.0	4.7
80°-90°	24.2	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°	707.8	37.7
0°-40°	1058.9	56.4
0°-60°	1603.2	85.4
0°-90°	1877.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1877.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1071	1071	1071	1071	1071	
5°	1057	1070	1055	1045	1052	100
15°	1007	992	932	886	874	284
25°	915	859	739	647	621	421
35°	789	695	529	428	400	493
45°	644	517	344	265	256	497
55°	491	341	211	180	176	438
65°	332	184	129	115	114	328
75°	170	85	67	62	62	181
85°	34	21	19	18	18	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1070.7	1070.7	1070.7	1070.7	1070.7
2.5°	1061.9	1075.5	1065.1	1065.9	1069.1
5°	1057.1	1069.9	1054.7	1045.1	1052.3
7.5°	1049.9	1059.5	1031.5	1016.3	1018.7
10°	1038.7	1041.9	1003.5	979.4	976.2
12.5°	1023.5	1017.9	969.8	934.6	929.0
15°	1006.7	992.3	932.2	886.5	874.5
17.5°	987.5	963.4	888.1	832.1	813.7
20°	965.0	931.4	841.7	770.4	748.0
22.5°	941.0	897.8	791.2	707.2	683.9
25°	914.6	859.3	739.2	647.1	620.7
27.5°	885.7	820.9	686.3	587.8	558.2
30°	854.5	780.8	631.9	530.2	501.3
32.5°	822.5	738.4	579.8	476.5	448.5
35°	788.8	695.1	528.6	427.7	400.4
37.5°	754.4	651.1	478.9	381.2	355.6
40°	719.2	606.2	431.7	338.0	314.7
42.5°	681.5	561.4	386.0	297.1	279.5
45°	643.9	516.6	343.6	265.1	256.3
47.5°	606.2	470.9	303.5	242.7	234.7
50°	567.0	426.9	265.9	221.8	213.8
52.5°	528.6	383.6	234.7	201.8	196.2
55°	490.9	341.2	211.4	180.2	176.2
57.5°	451.7	299.5	188.2	163.4	158.6
60°	410.0	259.5	166.6	145.8	143.4
62.5°	372.4	221.8	147.4	130.5	128.1
65°	332.4	184.2	128.9	115.3	113.7
67.5°	291.5	153.0	112.1	100.9	100.1
70°	250.7	128.9	96.1	87.3	86.5
72.5°	210.6	106.5	80.9	75.3	73.7
75°	169.8	84.9	67.3	62.5	61.7
77.5°	132.9	65.7	53.7	50.5	49.7
80°	97.7	48.9	41.6	39.2	38.4
82.5°	64.1	33.6	29.6	28.0	28.0
85°	34.4	20.8	19.2	17.6	18.4
87.5°	12.0	8.8	8.8	8.0	8.8
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	19.44	20.94	19.81	21.25	21.56	14.60	16.09	14.96	16.40	16.72
	3H	21.33	22.67	21.71	23.00	23.36	16.22	17.56	16.60	17.89	18.25
	4H	22.09	23.34	22.49	23.69	24.07	16.86	18.12	17.26	18.46	18.84
	6H	22.65	23.81	23.07	24.18	24.57	17.35	18.51	17.76	18.88	19.27
	8H	22.83	23.93	23.25	24.32	24.72	17.52	18.62	17.95	19.01	19.42
	12H	22.92	23.98	23.35	24.36	24.79	17.64	18.70	18.07	19.08	19.51
4H	2H	19.49	20.75	19.89	21.10	21.48	15.32	16.58	15.72	16.93	17.31
	3H	21.51	22.55	21.92	22.95	23.35	17.14	18.19	17.55	18.59	18.99
	4H	22.33	23.27	22.76	23.68	24.12	17.89	18.83	18.32	19.25	19.69
	6H	23.01	23.83	23.47	24.27	24.73	18.50	19.32	18.96	19.76	20.22
	8H	23.24	24.00	23.70	24.45	24.91	18.71	19.48	19.18	19.92	20.39
	12H	23.39	24.07	23.87	24.55	25.02	18.88	19.56	19.36	20.04	20.51
8H	4H	22.35	23.11	22.81	23.56	24.03	18.27	19.04	18.74	19.48	19.95
	6H	23.08	23.71	23.58	24.20	24.68	19.00	19.63	19.50	20.13	20.60
	8H	23.35	23.91	23.86	24.42	24.91	19.29	19.86	19.80	20.37	20.85
	12H	23.56	24.06	24.07	24.55	25.11	19.53	20.03	20.04	20.53	21.09
12H	4H	22.34	23.02	22.82	23.50	23.97	18.33	19.01	18.81	19.49	19.96
	6H	23.06	23.63	23.58	24.14	24.63	19.08	19.65	19.60	20.16	20.65
	8H	23.37	23.87	23.88	24.36	24.93	19.43	19.93	19.94	20.42	20.99