

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: P1055775

Luminaire Tested: S123R3DR-H560D850-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055775
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-H560D850-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

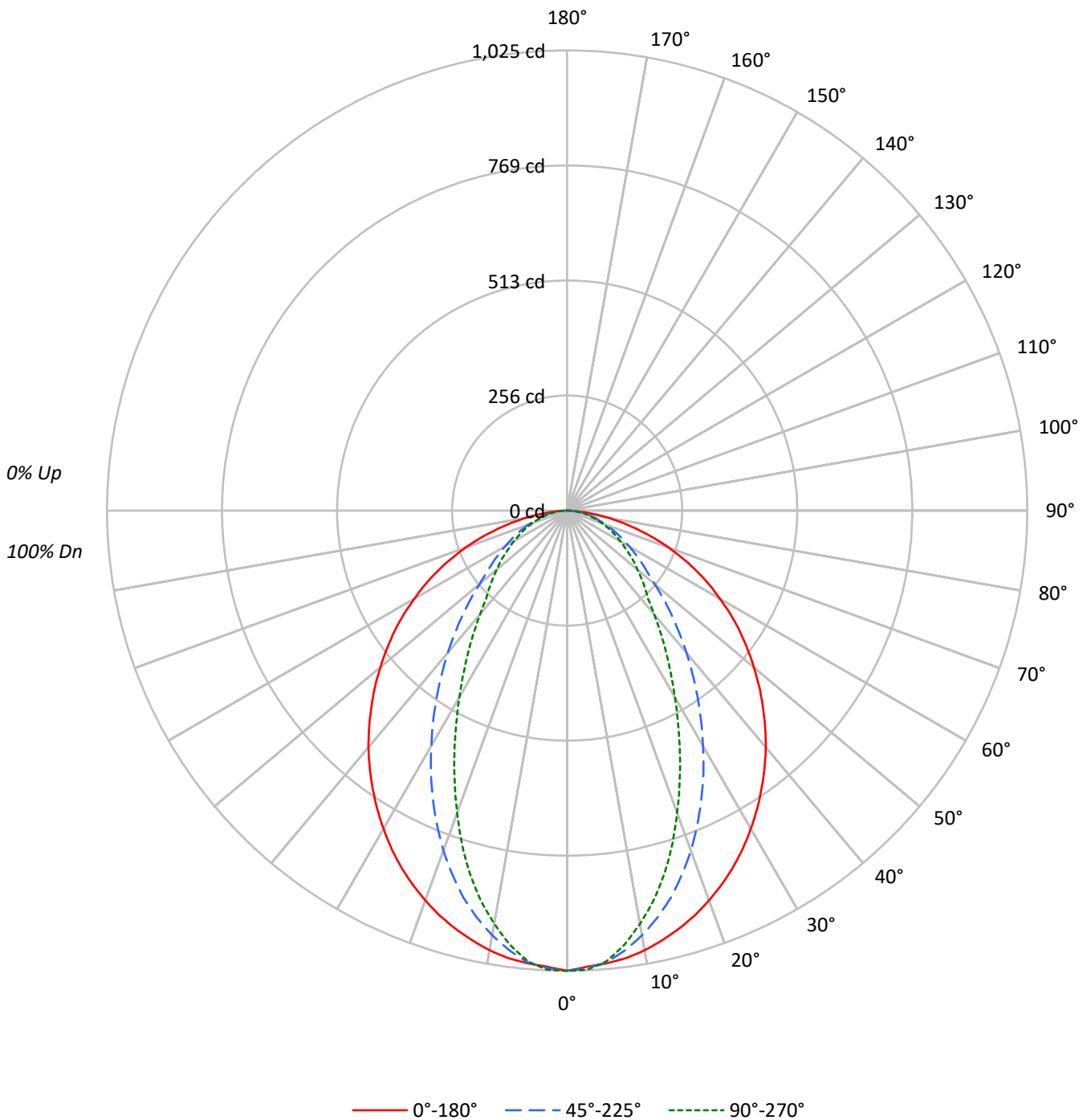
Lumens per Lamp: N/A
Luminaire Lumens: 1798.1 lumens
Efficiency: N/A
Efficacy: 103.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
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°	12360	12360	12360
5°	12250	12222	12194
10°	12176	11762	11444
15°	12031	11141	10452
20°	11855	10340	9189
25°	11649	9416	7906
30°	11391	8423	6682
35°	11117	7449	5643
40°	10838	6505	4744
45°	10512	5610	4184
50°	10183	4775	3839
55°	9881	4254	3546
60°	9467	3846	3311
65°	9078	3523	3107
70°	8460	3243	2919
75°	7574	3000	2748
80°	6499	2770	2555
85°	4565	2545	2435

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10512 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.0	5.3
10°-20°	251.4	14.0
20°-30°	331.2	18.4
30°-40°	336.2	18.7
40°-50°	292.2	16.3
50°-60°	228.9	12.7
60°-70°	155.6	8.7
70°-80°	84.3	4.7
80°-90°	23.2	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°	677.7	37.7
0°-40°	1013.9	56.4
0°-60°	1535.0	85.4
0°-90°	1798.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1798.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1025	1025	1025	1025	1025	
5°	1012	1024	1010	1001	1008	96
15°	964	950	893	849	837	272
25°	876	823	708	620	594	403
35°	755	666	506	410	383	472
45°	616	495	329	254	245	476
55°	470	327	202	172	169	420
65°	318	176	124	110	109	314
75°	163	81	64	60	59	174
85°	33	20	18	17	18	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1025.2	1025.2	1025.2	1025.2	1025.2
2.5°	1016.8	1029.8	1019.9	1020.6	1023.7
5°	1012.2	1024.5	1009.9	1000.7	1007.6
7.5°	1005.3	1014.5	987.7	973.1	975.4
10°	994.6	997.6	960.8	937.8	934.8
12.5°	980.0	974.6	928.6	894.9	889.5
15°	963.9	950.1	892.6	848.9	837.4
17.5°	945.5	922.5	850.4	796.7	779.1
20°	924.0	891.8	805.9	737.7	716.2
22.5°	901.0	859.6	757.6	677.1	654.9
25°	875.7	822.8	707.8	619.6	594.3
27.5°	848.1	786.0	657.2	562.8	534.5
30°	818.2	747.6	605.0	507.6	480.0
32.5°	787.5	707.0	555.2	456.3	429.4
35°	755.3	665.6	506.1	409.5	383.4
37.5°	722.3	623.4	458.6	365.0	340.5
40°	688.6	580.5	413.3	323.6	301.4
42.5°	652.6	537.5	369.6	284.5	267.6
45°	616.5	494.6	329.0	253.8	245.4
47.5°	580.5	450.9	290.6	232.3	224.7
50°	542.9	408.7	254.6	212.4	204.7
52.5°	506.1	367.3	224.7	193.2	187.9
55°	470.1	326.7	202.4	172.5	168.7
57.5°	432.5	286.8	180.2	156.4	151.8
60°	392.6	248.4	159.5	139.6	137.3
62.5°	356.6	212.4	141.1	125.0	122.7
65°	318.2	176.4	123.5	110.4	108.9
67.5°	279.1	146.5	107.4	96.6	95.9
70°	240.0	123.5	92.0	83.6	82.8
72.5°	201.7	102.0	77.4	72.1	70.5
75°	162.6	81.3	64.4	59.8	59.0
77.5°	127.3	62.9	51.4	48.3	47.5
80°	93.6	46.8	39.9	37.6	36.8
82.5°	61.3	32.2	28.4	26.8	26.8
85°	33.0	19.9	18.4	16.9	17.6
87.5°	11.5	8.4	8.4	7.7	8.4
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	19.29	20.79	19.66	21.10	21.41	14.44	15.93	14.81	16.25	16.56
	3H	21.18	22.52	21.56	22.85	23.21	16.07	17.41	16.45	17.74	18.10
	4H	21.94	23.19	22.34	23.54	23.92	16.71	17.96	17.11	18.31	18.69
	6H	22.50	23.66	22.91	24.03	24.42	17.20	18.36	17.61	18.72	19.12
	8H	22.68	23.78	23.10	24.17	24.57	17.37	18.47	17.79	18.86	19.26
	12H	22.77	23.83	23.20	24.21	24.64	17.49	18.55	17.92	18.93	19.36
4H	2H	19.34	20.60	19.74	20.95	21.32	15.17	16.43	15.57	16.78	17.16
	3H	21.36	22.40	21.77	22.80	23.20	16.99	18.04	17.40	18.44	18.84
	4H	22.18	23.12	22.61	23.53	23.97	17.74	18.68	18.17	19.09	19.53
	6H	22.86	23.68	23.32	24.12	24.58	18.35	19.16	18.80	19.61	20.07
	8H	23.09	23.85	23.55	24.30	24.76	18.56	19.33	19.03	19.77	20.24
	12H	23.24	23.92	23.72	24.40	24.87	18.73	19.41	19.21	19.89	20.36
8H	4H	22.20	22.96	22.66	23.41	23.88	18.12	18.89	18.59	19.33	19.80
	6H	22.93	23.56	23.43	24.05	24.53	18.85	19.48	19.35	19.97	20.45
	8H	23.20	23.76	23.71	24.27	24.76	19.14	19.70	19.65	20.21	20.70
	12H	23.41	23.91	23.92	24.40	24.96	19.38	19.88	19.89	20.37	20.94
12H	4H	22.19	22.87	22.67	23.35	23.82	18.18	18.86	18.66	19.34	19.81
	6H	22.91	23.48	23.43	23.99	24.48	18.93	19.50	19.45	20.01	20.50
	8H	23.22	23.72	23.73	24.21	24.78	19.28	19.78	19.79	20.27	20.84