

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: P1055774

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

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055774
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-6)
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-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

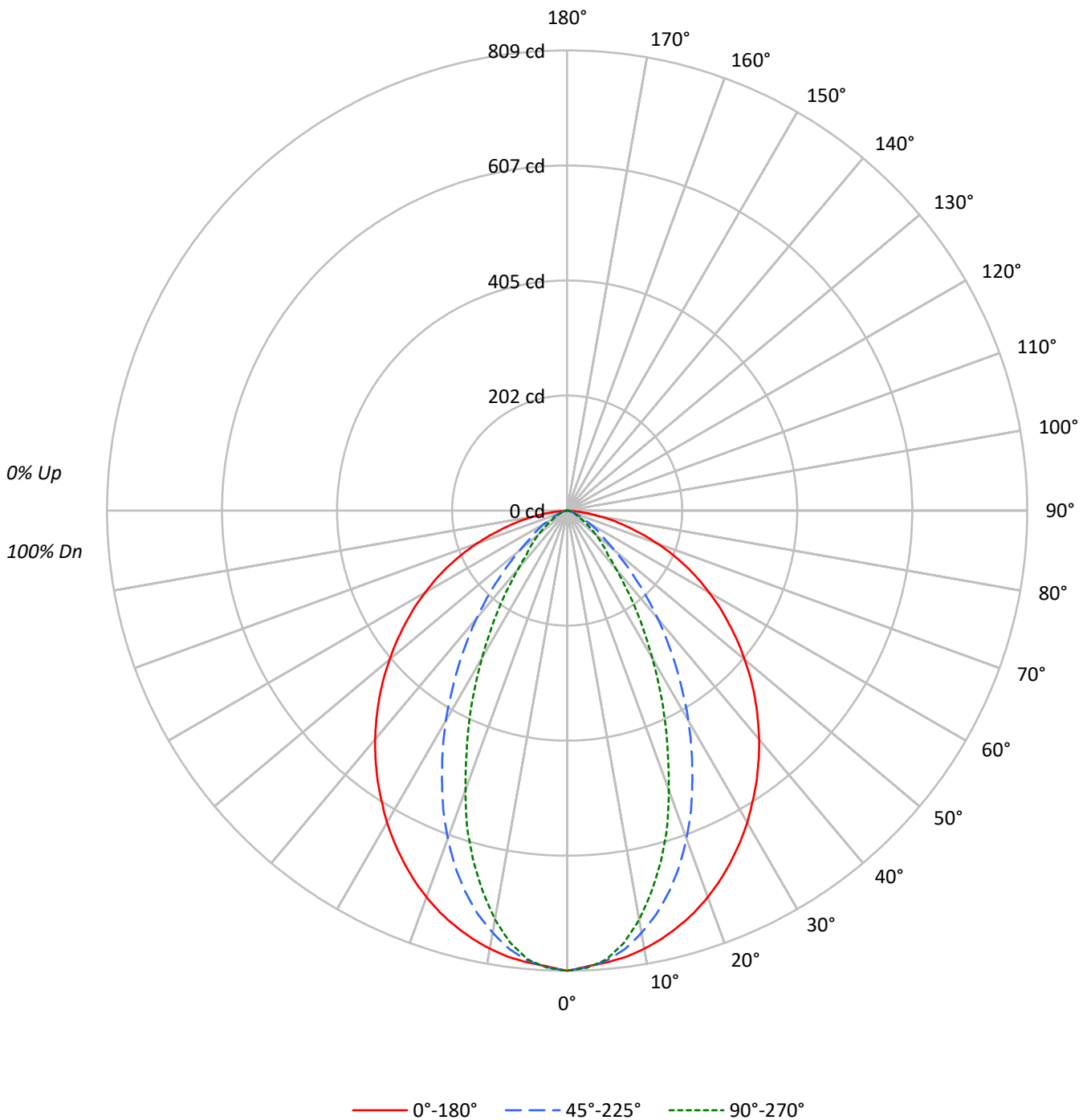
Lumens per Lamp: N/A
Luminaire Lumens: 1125.1 lumens
Efficiency: N/A
Efficacy: 65.0 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
Input Voltage (V): 120
Input Current (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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CATALOG NUMBER: S123R3DR-H560D850-X4F0-XX-UDD-F-S

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	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39
10	62	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9754	9754	9754
5°	9652	9614	9586
10°	9576	9228	8937
15°	9446	8652	7953
20°	9277	7871	6700
25°	9058	6927	5406
30°	8818	5936	4164
35°	8544	4898	3081
40°	8267	3898	2100
45°	7963	2916	1582
50°	7638	2028	1236
55°	7302	1482	902
60°	6952	1109	646
65°	6541	745	502
70°	5919	539	405
75°	5110	391	321
80°	4096	319	264
85°	2116	318	207

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7963 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.8	6.6
10°-20°	194.7	17.3
20°-30°	244.6	21.7
30°-40°	227.8	20.2
40°-50°	174.4	15.5
50°-60°	115.9	10.3
60°-70°	62.5	5.6
70°-80°	25.6	2.3
80°-90°	4.9	0.4
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°	514.0	45.7
0°-40°	741.8	65.9
0°-60°	1032.1	91.7
0°-90°	1125.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1125.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	809	809	809	809	809	
5°	798	806	794	791	792	76
15°	757	745	693	653	637	213
25°	681	635	521	434	406	314
35°	580	495	333	235	209	363
45°	467	345	171	100	93	360
55°	347	201	70	49	43	311
65°	229	77	26	19	18	227
75°	110	18	8	8	7	117
85°	15	2	2	2	2	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	809.0	809.0	809.0	809.0	809.0
2.5°	802.1	812.1	803.6	804.4	804.4
5°	797.5	805.9	794.4	791.4	792.1
7.5°	791.4	796.7	777.6	767.6	766.1
10°	782.2	783.7	753.8	736.1	730.0
12.5°	770.7	765.3	726.2	697.0	685.5
15°	756.8	744.6	693.2	652.6	637.2
17.5°	741.5	720.8	655.6	602.7	584.3
20°	723.1	694.0	613.5	547.5	522.2
22.5°	703.2	665.6	569.0	490.8	462.4
25°	680.9	634.9	520.7	434.0	406.4
27.5°	657.9	602.0	473.1	380.3	352.0
30°	633.4	568.2	426.4	328.2	299.1
32.5°	606.6	531.4	378.0	279.9	250.7
35°	580.5	494.6	332.8	235.4	209.3
37.5°	552.9	457.8	289.1	196.3	167.2
40°	525.3	420.2	247.7	158.0	133.4
42.5°	496.1	382.6	208.6	125.8	106.6
45°	467.0	345.1	171.0	100.5	92.8
47.5°	437.9	307.5	138.0	86.7	79.0
50°	407.2	271.5	108.1	73.6	65.9
52.5°	378.0	235.4	84.3	60.6	53.7
55°	347.4	200.9	70.5	49.1	42.9
57.5°	319.0	165.6	58.3	38.3	33.7
60°	288.3	134.2	46.0	29.9	26.8
62.5°	259.2	105.1	35.3	23.8	21.5
65°	229.3	77.4	26.1	19.2	17.6
67.5°	199.4	56.0	19.9	15.3	14.6
70°	167.9	42.2	15.3	12.3	11.5
72.5°	138.0	29.9	11.5	10.0	9.2
75°	109.7	18.4	8.4	7.7	6.9
77.5°	84.3	10.7	6.1	6.1	5.4
80°	59.0	6.1	4.6	4.6	3.8
82.5°	36.0	3.8	3.1	3.1	3.1
85°	15.3	2.3	2.3	2.3	1.5
87.5°	2.3	0.8	0.8	0.8	0.8
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	17.72	19.08	18.09	19.39	19.71	6.29	7.65	6.66	7.96	8.28
	3H	19.48	20.68	19.86	21.01	21.38	6.96	8.16	7.34	8.49	8.86
	4H	20.18	21.30	20.58	21.65	22.04	7.16	8.28	7.56	8.63	9.01
	6H	20.69	21.72	21.11	22.09	22.49	7.28	8.31	7.69	8.68	9.07
	8H	20.83	21.81	21.26	22.20	22.61	7.31	8.29	7.74	8.68	9.09
	12H	20.88	21.82	21.31	22.20	22.63	7.32	8.26	7.75	8.64	9.07
4H	2H	17.53	18.66	17.94	19.01	19.39	6.85	7.98	7.25	8.33	8.71
	3H	19.33	20.25	19.74	20.65	21.05	7.65	8.57	8.06	8.98	9.38
	4H	20.02	20.84	20.46	21.26	21.71	7.91	8.74	8.35	9.15	9.60
	6H	20.59	21.30	21.05	21.75	22.21	8.11	8.82	8.57	9.27	9.73
	8H	20.77	21.43	21.23	21.87	22.35	8.16	8.83	8.63	9.27	9.74
	12H	20.85	21.44	21.34	21.92	22.39	8.20	8.78	8.68	9.26	9.74
8H	4H	19.90	20.56	20.37	21.01	21.48	8.22	8.89	8.69	9.33	9.80
	6H	20.45	20.99	20.95	21.49	21.97	8.47	9.01	8.97	9.51	9.99
	8H	20.63	21.11	21.15	21.63	22.12	8.56	9.05	9.08	9.56	10.05
	12H	20.73	21.16	21.25	21.65	22.22	8.64	9.07	9.16	9.56	10.14
12H	4H	19.86	20.44	20.34	20.92	21.40	8.27	8.86	8.75	9.34	9.81
	6H	20.39	20.88	20.91	21.39	21.89	8.52	9.00	9.04	9.52	10.01
	8H	20.59	21.02	21.10	21.51	22.08	8.65	9.07	9.16	9.57	10.14