

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: P1055639

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

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055639
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-S560D850-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

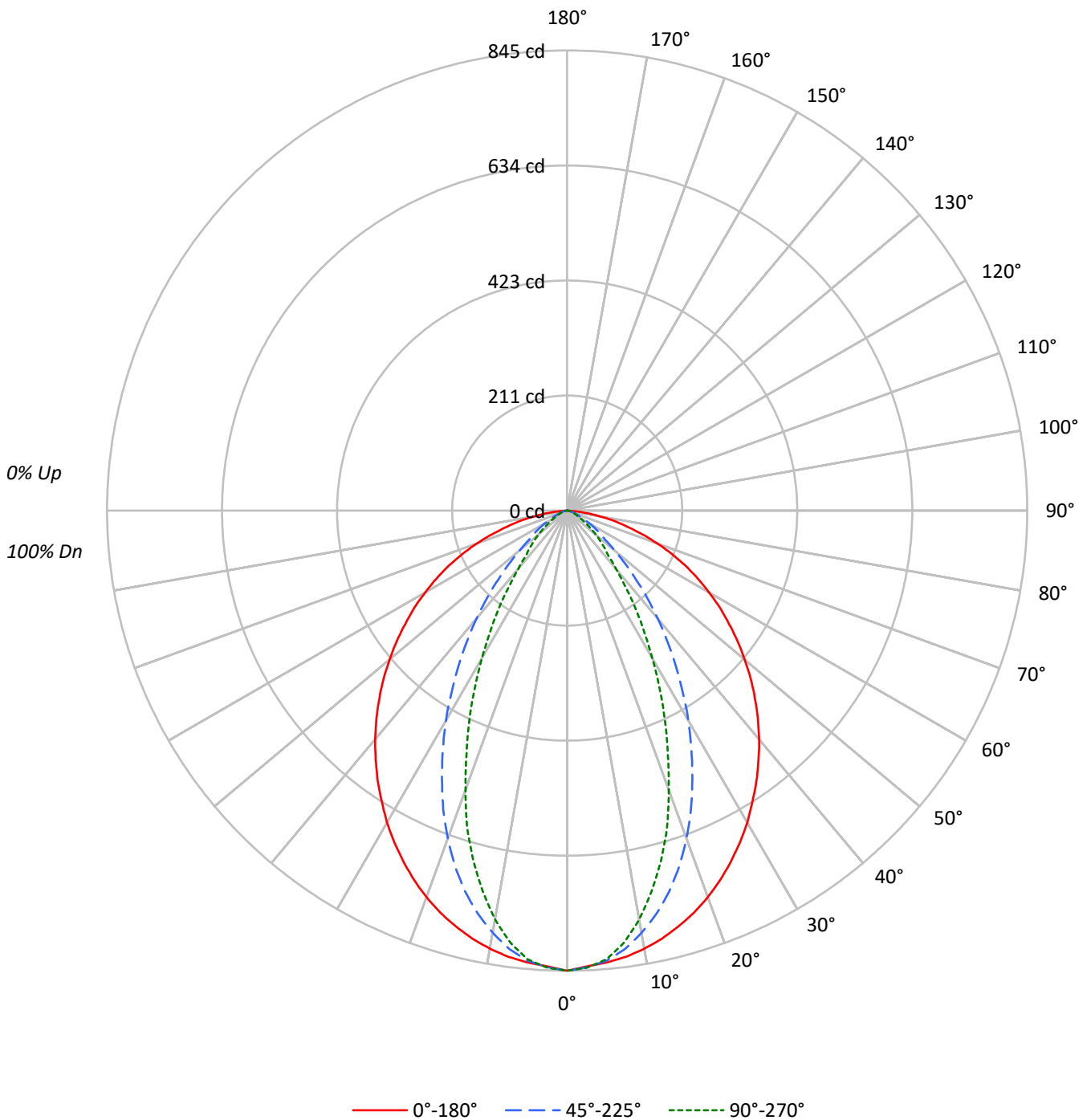
Lumens per Lamp: N/A
Luminaire Lumens: 1175.0 lumens
Efficiency: N/A
Efficacy: 61.5 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10186	10186	10186
5°	10080	10041	10012
10°	10001	9637	9334
15°	9866	9037	8307
20°	9689	8220	6998
25°	9461	7234	5647
30°	9209	6199	4348
35°	8922	5116	3217
40°	8634	4072	2192
45°	8315	3045	1652
50°	7977	2118	1292
55°	7626	1549	942
60°	7260	1160	675
65°	6832	776	525
70°	6183	564	423
75°	5334	410	335
80°	4284	333	278
85°	2213	332	221

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8315 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.1	6.6
10°-20°	203.3	17.3
20°-30°	255.4	21.7
30°-40°	237.9	20.2
40°-50°	182.1	15.5
50°-60°	121.1	10.3
60°-70°	65.2	5.6
70°-80°	26.7	2.3
80°-90°	5.1	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°	536.8	45.7
0°-40°	774.7	65.9
0°-60°	1077.9	91.7
0°-90°	1175.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1175.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	845	845	845	845	845	
5°	833	842	830	826	827	79
15°	790	778	724	682	666	223
25°	711	663	544	453	424	327
35°	606	517	348	246	219	379
45°	488	360	179	105	97	376
55°	363	210	74	51	45	325
65°	240	81	27	20	18	237
75°	114	19	9	8	7	123
85°	16	2	2	2	2	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	844.9	844.9	844.9	844.9	844.9
2.5°	837.7	848.1	839.3	840.1	840.1
5°	832.9	841.7	829.7	826.5	827.3
7.5°	826.5	832.1	812.1	801.7	800.1
10°	816.9	818.5	787.2	768.8	762.4
12.5°	804.9	799.3	758.4	728.0	716.0
15°	790.4	777.6	724.0	681.5	665.5
17.5°	774.4	752.8	684.7	629.5	610.3
20°	755.2	724.8	640.7	571.8	545.4
22.5°	734.4	695.1	594.2	512.5	482.9
25°	711.2	663.1	543.8	453.3	424.5
27.5°	687.1	628.7	494.1	397.2	367.6
30°	661.5	593.4	445.3	342.8	312.3
32.5°	633.5	555.0	394.8	292.3	261.9
35°	606.2	516.6	347.6	245.9	218.6
37.5°	577.4	478.1	301.9	205.0	174.6
40°	548.6	438.9	258.7	165.0	139.3
42.5°	518.2	399.6	217.8	131.3	111.3
45°	487.7	360.4	178.6	104.9	96.9
47.5°	457.3	321.1	144.2	90.5	82.5
50°	425.3	283.5	112.9	76.9	68.9
52.5°	394.8	245.9	88.1	63.3	56.1
55°	362.8	209.8	73.7	51.3	44.8
57.5°	333.2	173.0	60.9	40.0	35.2
60°	301.1	140.1	48.1	31.2	28.0
62.5°	270.7	109.7	36.8	24.8	22.4
65°	239.5	80.9	27.2	20.0	18.4
67.5°	208.2	58.5	20.8	16.0	15.2
70°	175.4	44.0	16.0	12.8	12.0
72.5°	144.2	31.2	12.0	10.4	9.6
75°	114.5	19.2	8.8	8.0	7.2
77.5°	88.1	11.2	6.4	6.4	5.6
80°	61.7	6.4	4.8	4.8	4.0
82.5°	37.6	4.0	3.2	3.2	3.2
85°	16.0	2.4	2.4	2.4	1.6
87.5°	2.4	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	17.88	19.23	18.24	19.55	19.86	6.44	7.80	6.81	8.11	8.43
	3H	19.63	20.84	20.01	21.17	21.53	7.11	8.31	7.49	8.64	9.01
	4H	20.33	21.45	20.73	21.80	22.19	7.30	8.43	7.71	8.78	9.16
	6H	20.84	21.88	21.26	22.25	22.64	7.42	8.46	7.84	8.83	9.22
	8H	20.98	21.96	21.41	22.35	22.76	7.46	8.44	7.89	8.83	9.23
	12H	21.03	21.97	21.47	22.35	22.78	7.47	8.41	7.90	8.79	9.22
4H	2H	17.69	18.81	18.09	19.16	19.54	7.00	8.12	7.40	8.47	8.86
	3H	19.48	20.40	19.89	20.80	21.20	7.80	8.72	8.21	9.12	9.53
	4H	20.17	21.00	20.61	21.41	21.86	8.06	8.88	8.49	9.30	9.74
	6H	20.74	21.45	21.20	21.90	22.36	8.25	8.96	8.72	9.41	9.88
	8H	20.92	21.58	21.39	22.03	22.50	8.31	8.97	8.78	9.42	9.89
	12H	21.00	21.59	21.49	22.07	22.55	8.34	8.93	8.83	9.41	9.88
8H	4H	20.05	20.71	20.52	21.16	21.63	8.37	9.03	8.84	9.48	9.95
	6H	20.60	21.15	21.11	21.64	22.12	8.62	9.16	9.12	9.66	10.14
	8H	20.78	21.26	21.30	21.78	22.27	8.71	9.19	9.23	9.71	10.20
	12H	20.88	21.31	21.40	21.81	22.38	8.79	9.21	9.30	9.71	10.28
12H	4H	20.01	20.59	20.49	21.07	21.55	8.42	9.00	8.90	9.48	9.96
	6H	20.54	21.03	21.07	21.55	22.04	8.66	9.15	9.18	9.66	10.16
	8H	20.74	21.17	21.25	21.66	22.23	8.79	9.22	9.30	9.71	10.28