

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: P1055632

Luminaire Tested: S123R3DR-S560D835-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055632
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-S560D835-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

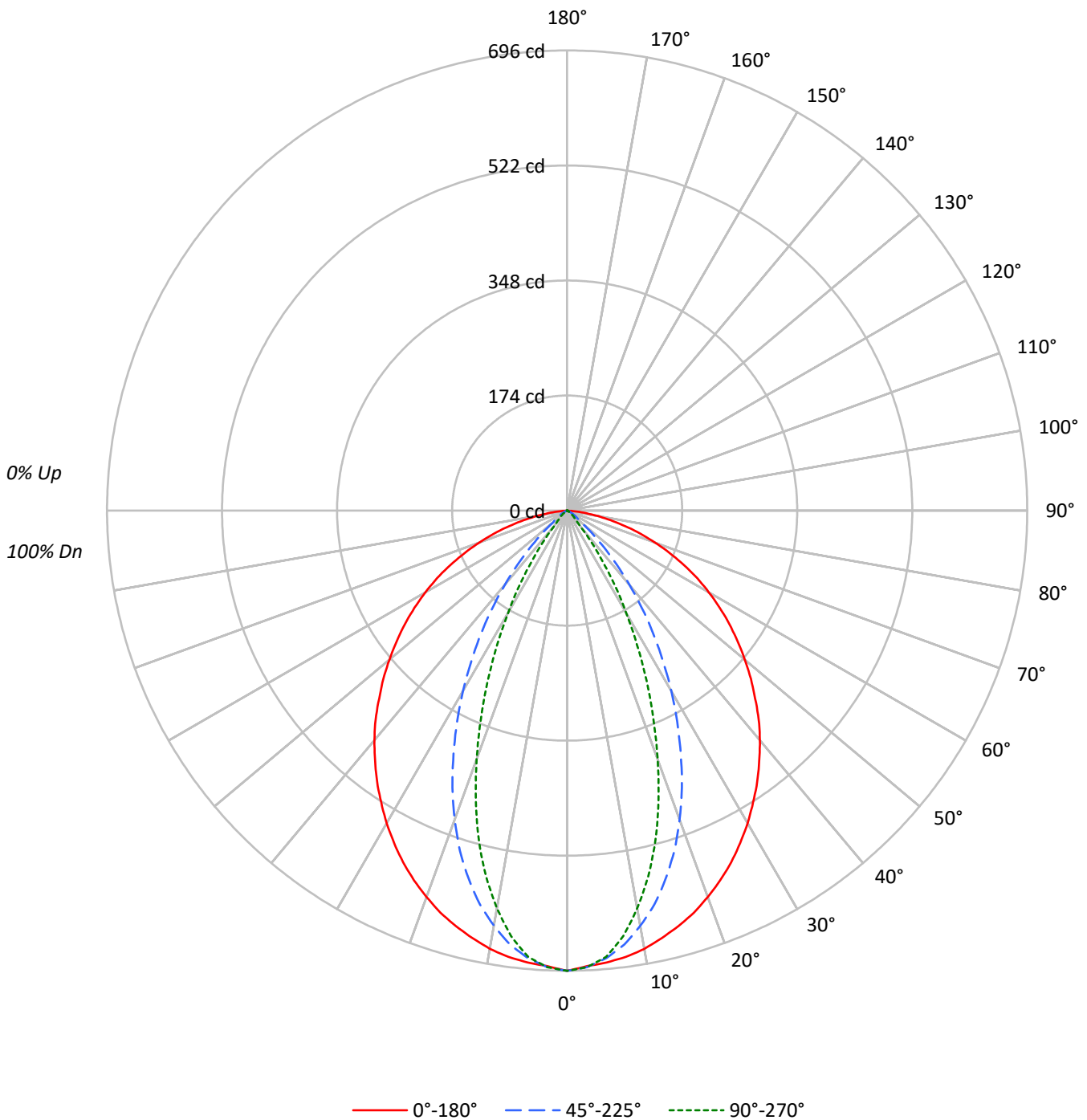
Lumens per Lamp: N/A
Luminaire Lumens: 814.7 lumens
Efficiency: N/A
Efficacy: 42.7 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 19.1
Input Voltage (V): 120
Input Current (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	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	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90				90
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81				81
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73				73
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65				65
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59				59
6	81	70	63	58	79	69	62	57	67	61	57	66	61	56	64	60	56	54				54
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50				50
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46				46
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43				43
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40				40

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8392	8392	8392
5°	8302	8224	8198
10°	8239	7807	7479
15°	8121	7193	6444
20°	7978	6384	5133
25°	7810	5409	3785
30°	7600	4384	2484
35°	7377	3338	1360
40°	7137	2307	466
45°	6858	1342	271
50°	6584	529	163
55°	6300	334	76
60°	5973	210	34
65°	5563	103	20
70°	4988	49	25
75°	4239	33	33
80°	3159	49	0
85°	1203	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6858 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.8	7.8
10°-20°	162.0	19.9
20°-30°	193.2	23.7
30°-40°	163.9	20.1
40°-50°	111.4	13.7
50°-60°	69.1	8.5
60°-70°	35.0	4.3
70°-80°	14.3	1.7
80°-90°	2.2	0.3
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°	419.0	51.4
0°-40°	582.9	71.5
0°-60°	763.3	93.7
0°-90°	814.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	814.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	696	696	696	696	696	
5°	686	692	680	674	677	65
15°	651	634	576	531	516	183
25°	587	532	407	314	284	270
35°	501	402	227	122	92	313
45°	402	264	79	20	16	311
55°	300	133	16	6	4	268
65°	195	32	4	1	1	193
75°	91	6	1	1	1	97
85°	9	0	0	1	0	15
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	696.1	696.1	696.1	696.1	696.1
2.5°	689.6	699.0	691.1	690.4	691.1
5°	686.0	692.5	679.5	674.5	677.4
7.5°	681.0	683.9	662.2	649.2	649.2
10°	673.0	670.9	637.7	616.0	610.9
12.5°	662.2	653.5	610.2	576.3	566.9
15°	650.6	634.0	576.3	530.8	516.3
17.5°	637.7	612.4	539.4	480.2	459.3
20°	621.8	587.8	497.6	425.3	400.1
22.5°	605.2	561.1	453.5	369.0	340.9
25°	587.1	532.2	406.6	314.1	284.5
27.5°	566.9	501.9	360.3	261.4	228.9
30°	545.9	470.1	314.9	210.9	178.4
32.5°	523.6	436.9	269.4	164.6	134.3
35°	501.2	402.2	226.8	122.0	92.4
37.5°	477.3	367.6	185.6	84.5	58.5
40°	453.5	333.6	146.6	53.4	29.6
42.5°	429.0	298.2	111.2	26.7	20.2
45°	402.2	263.6	78.7	19.5	15.9
47.5°	377.0	230.4	52.0	15.9	12.3
50°	351.0	197.1	28.2	11.6	8.7
52.5°	325.0	165.4	20.2	8.7	5.8
55°	299.7	132.9	15.9	5.8	3.6
57.5°	273.7	104.7	12.3	3.6	2.2
60°	247.7	77.3	8.7	2.2	1.4
62.5°	221.7	53.4	5.8	1.4	0.7
65°	195.0	32.5	3.6	0.7	0.7
67.5°	167.5	22.4	2.2	0.7	0.7
70°	141.5	15.9	1.4	0.7	0.7
72.5°	115.5	10.1	0.7	0.7	0.0
75°	91.0	5.8	0.7	0.7	0.7
77.5°	67.2	2.2	0.7	0.7	0.0
80°	45.5	0.7	0.7	0.7	0.0
82.5°	25.3	0.0	0.7	0.7	0.0
85°	8.7	0.0	0.0	0.7	0.0
87.5°	0.0	0.0	0.0	0.7	0.0
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	16.44	17.72	16.80	18.03	18.35	0.00	0.00	0.00	0.00	0.00
	3H	18.38	19.52	18.76	19.85	20.21	0.00	0.00	0.00	0.00	0.00
	4H	19.21	20.27	19.61	20.62	21.00	0.00	0.00	0.00	0.00	0.00
	6H	19.77	20.73	20.18	21.11	21.50	0.00	0.00	0.00	0.00	0.00
	8H	19.89	20.81	20.32	21.20	21.61	0.00	0.00	0.00	0.00	0.00
	12H	19.92	20.79	20.35	21.17	21.61	0.00	0.00	0.00	0.00	0.00
4H	2H	16.20	17.26	16.61	17.61	17.99	0.00	0.00	0.00	0.00	0.00
	3H	18.15	19.02	18.57	19.42	19.83	0.00	0.00	0.00	0.00	0.00
	4H	18.97	19.74	19.40	20.16	20.60	0.00	0.00	0.00	0.00	0.00
	6H	19.57	20.23	20.03	20.68	21.15	0.00	0.00	0.00	0.00	0.00
	8H	19.72	20.34	20.19	20.79	21.26	0.00	0.00	0.00	0.00	0.00
	12H	19.77	20.31	20.26	20.80	21.27	0.00	0.00	0.00	0.00	0.00
8H	4H	18.83	19.44	19.30	19.89	20.36	0.00	0.00	0.00	0.00	0.00
	6H	19.41	19.91	19.91	20.41	20.89	0.00	0.00	0.00	0.00	0.00
	8H	19.56	20.01	20.08	20.52	21.02	0.00	0.00	0.00	0.00	0.00
	12H	19.62	20.01	20.13	20.51	21.08	0.00	0.00	0.00	0.00	0.00
12H	4H	18.78	19.32	19.27	19.81	20.28	0.00	0.00	0.00	0.00	0.00
	6H	19.35	19.80	19.87	20.31	20.81	0.00	0.00	0.00	0.00	0.00
	8H	19.51	19.91	20.03	20.40	20.98	0.00	0.00	0.00	0.00	0.00