

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: P1439952

Luminaire Tested: S124DR-S290D850-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439952
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2509-563-1)
Test Lab: INNOVATION CENTER
Issue Date: 4/2/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DR-S290D850-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

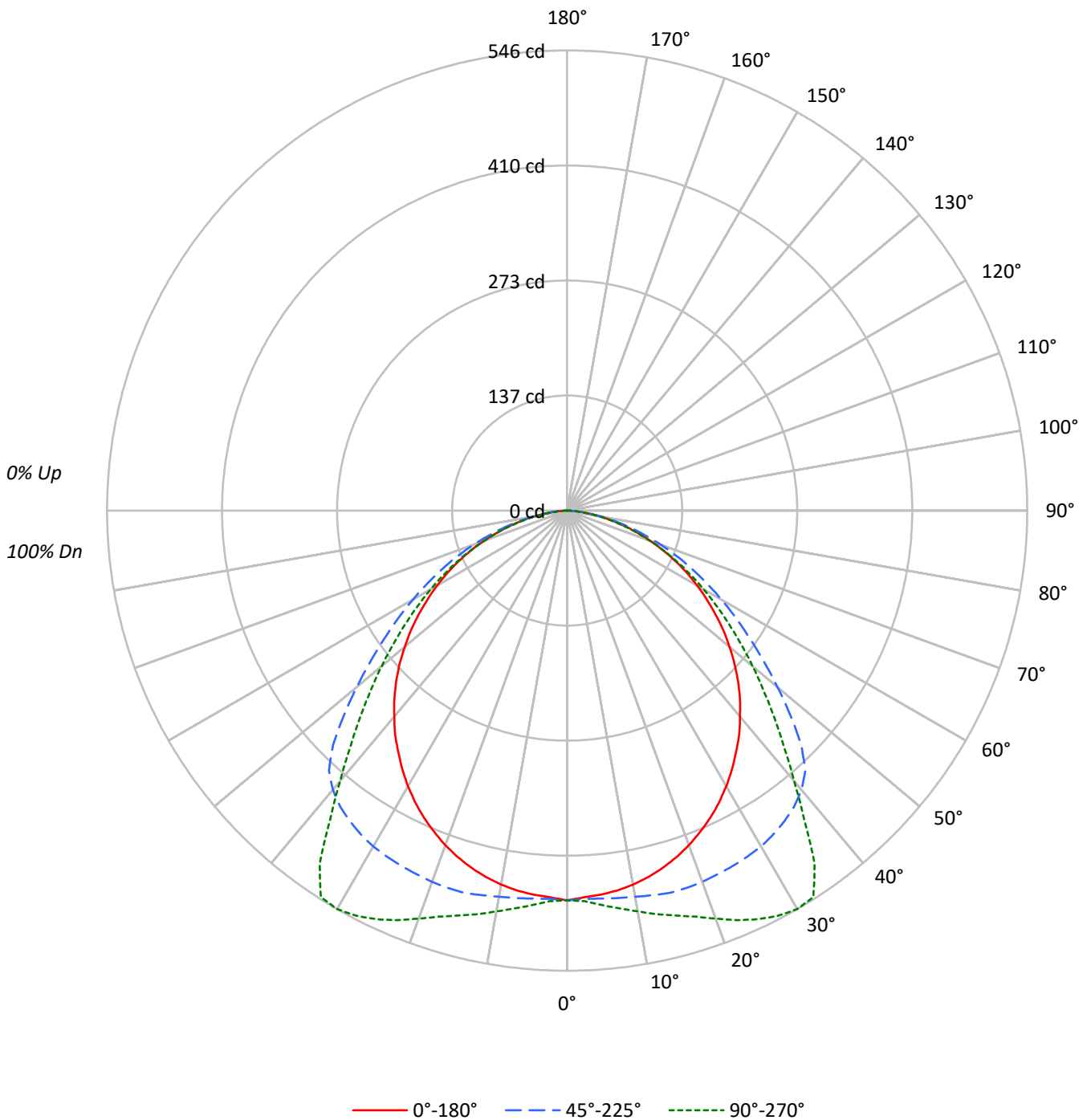
Lumens per Lamp: N/A
Luminaire Lumens: 1405.4 lumens
Efficiency: N/A
Efficacy: 111.5 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
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	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	109	105	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87					85				
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73					71				
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	66	63					60				
4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54					52				
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	52	47					45				
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41					39				
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37					35				
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33					31				
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30					28				
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27					25				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4088	4088	4088
5°	4059	4100	4169
10°	4045	4176	4335
15°	4016	4299	4553
20°	3975	4411	4846
25°	3923	4538	5219
30°	3855	4698	5573
35°	3771	4854	5525
40°	3682	4992	4835
45°	3586	4908	4346
50°	3458	4481	3952
55°	3316	4079	3610
60°	3153	3740	3307
65°	2962	3408	3019
70°	2709	3050	2699
75°	2388	2620	2340
80°	1965	2103	1894
85°	1380	1430	1288

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 4908 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.4	3.2
10°-20°	133.0	9.5
20°-30°	216.4	15.4
30°-40°	274.9	19.6
40°-50°	267.8	19.1
50°-60°	219.6	15.6
60°-70°	153.2	10.9
70°-80°	78.6	5.6
80°-90°	17.4	1.2
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°	393.8	28.0
0°-40°	668.7	47.6
0°-60°	1156.1	82.3
0°-90°	1405.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1405.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	462	462	462	462	462	
5°	457	464	462	465	470	43
15°	439	452	470	488	497	124
25°	402	428	465	513	535	185
35°	349	384	450	515	512	219
45°	287	322	392	360	348	221
55°	215	248	265	242	234	192
65°	142	162	163	150	144	140
75°	70	78	77	71	68	74
85°	14	14	14	13	13	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	462.4	462.4	462.4	462.4	462.4
2.5°	459.3	465.2	461.1	462.9	463.8
5°	457.4	464.3	462.0	465.2	469.7
7.5°	454.7	462.4	463.8	470.2	476.1
10°	450.6	459.7	465.2	476.1	482.9
12.5°	445.2	456.5	467.4	482.4	490.6
15°	438.8	452.5	469.7	488.3	497.4
17.5°	431.1	447.5	469.7	492.8	505.1
20°	422.5	441.6	468.8	498.7	515.1
22.5°	412.5	435.2	467.0	505.5	526.0
25°	402.1	427.9	465.2	513.3	535.0
27.5°	390.3	419.3	462.9	519.2	541.9
30°	377.6	408.9	460.2	521.9	545.9
32.5°	364.0	396.6	455.6	521.9	543.7
35°	349.4	383.5	449.7	515.1	511.9
37.5°	335.4	369.4	442.5	482.0	462.0
40°	319.0	354.4	432.5	435.2	418.9
42.5°	303.6	338.5	418.4	395.7	381.2
45°	286.8	322.2	392.5	359.9	347.6
47.5°	269.6	304.5	359.0	327.7	316.3
50°	251.4	286.8	325.8	297.2	287.3
52.5°	233.7	267.8	294.1	269.1	259.6
55°	215.1	248.2	264.6	242.3	234.2
57.5°	196.5	228.3	237.8	217.4	209.7
60°	178.3	206.9	211.5	193.8	187.0
62.5°	160.2	184.7	186.5	171.1	165.2
65°	141.6	162.0	162.9	149.8	144.3
67.5°	123.4	140.2	140.2	128.9	124.3
70°	104.8	118.9	118.0	108.9	104.4
72.5°	87.1	97.1	96.2	89.4	86.2
75°	69.9	77.6	76.7	71.2	68.5
77.5°	53.6	59.0	58.1	54.5	52.2
80°	38.6	41.8	41.3	38.6	37.2
82.5°	25.4	27.2	26.3	24.5	23.6
85°	13.6	14.1	14.1	13.2	12.7
87.5°	5.0	5.0	5.0	5.0	4.5
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	16.58	18.18	16.94	18.49	18.80	16.36	17.96	16.73	18.28	18.59
	3H	18.08	19.52	18.46	19.85	20.21	17.83	19.27	18.21	19.60	19.96
	4H	18.58	19.94	18.98	20.28	20.66	18.33	19.68	18.73	20.03	20.41
	6H	18.90	20.16	19.32	20.52	20.91	18.64	19.90	19.06	20.26	20.65
	8H	18.99	20.18	19.41	20.57	20.97	18.72	19.92	19.15	20.30	20.70
	12H	19.03	20.17	19.46	20.55	20.98	18.76	19.90	19.18	20.28	20.71
4H	2H	17.20	18.55	17.60	18.90	19.28	17.03	18.38	17.43	18.73	19.11
	3H	18.93	20.06	19.34	20.45	20.85	18.70	19.82	19.11	20.22	20.62
	4H	19.56	20.57	19.99	20.99	21.42	19.29	20.31	19.73	20.72	21.16
	6H	19.98	20.87	20.44	21.31	21.77	19.71	20.59	20.16	21.03	21.49
	8H	20.10	20.93	20.56	21.37	21.83	19.81	20.64	20.27	21.08	21.55
	12H	20.16	20.90	20.64	21.38	21.85	19.87	20.61	20.35	21.09	21.56
8H	4H	19.80	20.63	20.26	21.07	21.53	19.57	20.39	20.03	20.84	21.30
	6H	20.32	21.01	20.82	21.50	21.97	20.07	20.75	20.56	21.24	21.72
	8H	20.49	21.10	21.00	21.61	22.10	20.21	20.83	20.73	21.34	21.82
	12H	20.60	21.14	21.10	21.63	22.19	20.31	20.86	20.82	21.35	21.91
12H	4H	19.81	20.55	20.29	21.03	21.50	19.58	20.33	20.06	20.80	21.27
	6H	20.34	20.96	20.85	21.47	21.95	20.10	20.71	20.61	21.22	21.71
	8H	20.55	21.10	21.06	21.59	22.15	20.29	20.83	20.80	21.32	21.89