

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: P1439955

Luminaire Tested: S124DR-S290D935-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439955
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-S290D935-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

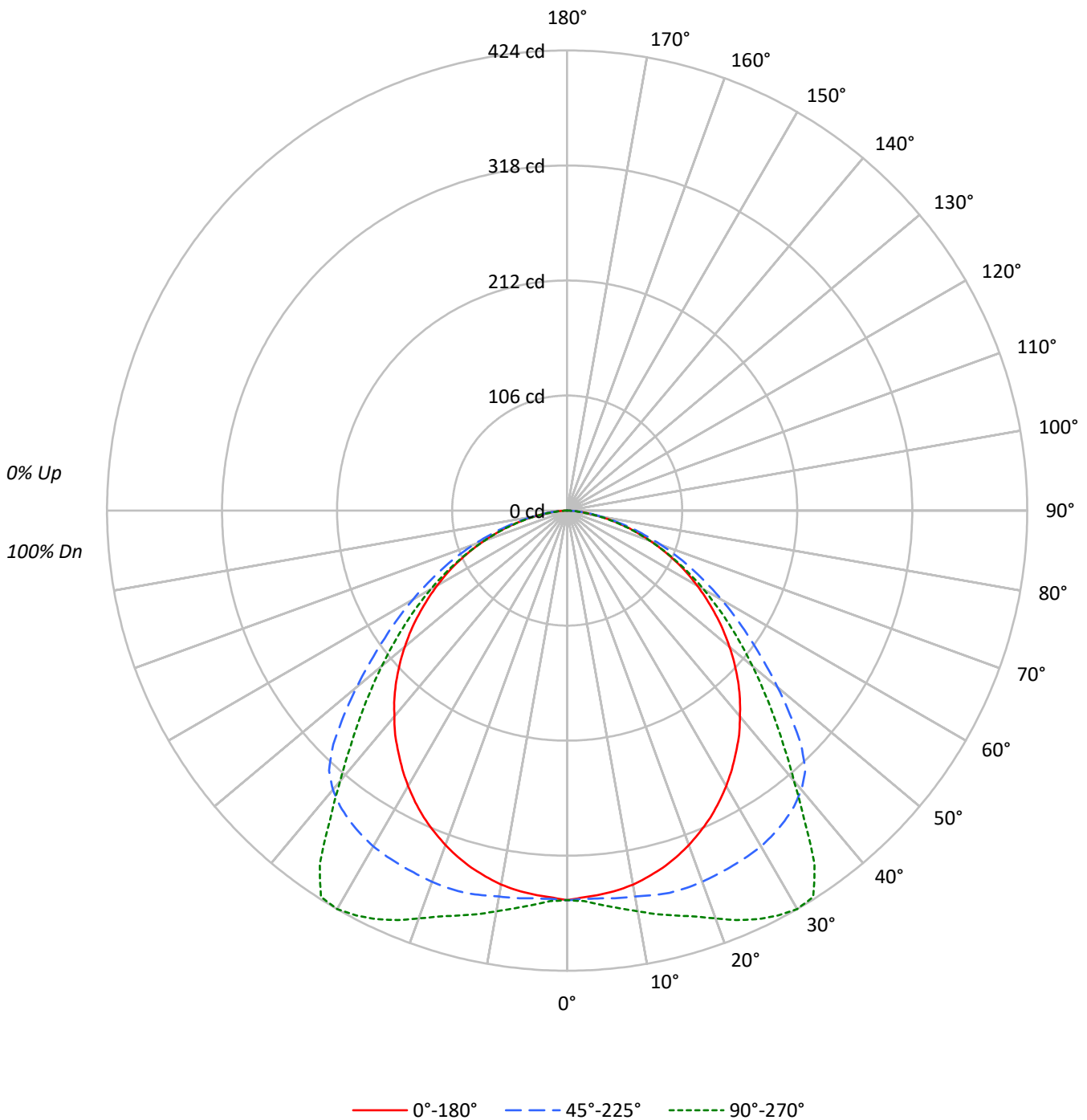
Lumens per Lamp: N/A
Luminaire Lumens: 1091.1 lumens
Efficiency: N/A
Efficacy: 86.6 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3174	3174	3174
5°	3152	3184	3237
10°	3141	3242	3366
15°	3119	3338	3535
20°	3086	3425	3763
25°	3046	3523	4052
30°	2992	3648	4328
35°	2928	3769	4289
40°	2859	3876	3753
45°	2785	3811	3375
50°	2685	3480	3067
55°	2574	3166	2802
60°	2449	2904	2568
65°	2299	2646	2343
70°	2104	2368	2094
75°	1855	2033	1817
80°	1522	1634	1471
85°	1075	1106	1004

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 3811 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.5	3.2
10°-20°	103.2	9.5
20°-30°	168.0	15.4
30°-40°	213.4	19.6
40°-50°	207.9	19.1
50°-60°	170.5	15.6
60°-70°	119.0	10.9
70°-80°	61.0	5.6
80°-90°	13.5	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°	305.7	28.0
0°-40°	519.1	47.6
0°-60°	897.6	82.3
0°-90°	1091.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1091.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	359	359	359	359	359	
5°	355	360	359	361	365	34
15°	341	351	365	379	386	96
25°	312	332	361	398	415	144
35°	271	298	349	400	397	170
45°	223	250	305	279	270	172
55°	167	193	205	188	182	149
65°	110	126	126	116	112	109
75°	54	60	60	55	53	58
85°	11	11	11	10	10	13
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	359.0	359.0	359.0	359.0	359.0
2.5°	356.6	361.1	358.0	359.4	360.1
5°	355.1	360.4	358.7	361.1	364.7
7.5°	353.0	359.0	360.1	365.0	369.6
10°	349.9	356.9	361.1	369.6	374.9
12.5°	345.6	354.4	362.9	374.5	380.9
15°	340.7	351.3	364.7	379.1	386.2
17.5°	334.7	347.4	364.7	382.6	392.1
20°	328.0	342.8	364.0	387.2	399.9
22.5°	320.3	337.9	362.5	392.5	408.4
25°	312.2	332.2	361.1	398.5	415.4
27.5°	303.0	325.6	359.4	403.1	420.7
30°	293.1	317.4	357.3	405.2	423.9
32.5°	282.6	307.9	353.7	405.2	422.1
35°	271.3	297.7	349.2	399.9	397.4
37.5°	260.4	286.8	343.5	374.2	358.7
40°	247.7	275.2	335.8	337.9	325.2
42.5°	235.7	262.8	324.8	307.2	296.0
45°	222.7	250.2	304.8	279.4	269.9
47.5°	209.3	236.4	278.7	254.4	245.6
50°	195.2	222.7	253.0	230.8	223.0
52.5°	181.4	207.9	228.3	208.9	201.5
55°	167.0	192.7	205.4	188.1	181.8
57.5°	152.6	177.2	184.6	168.8	162.8
60°	138.5	160.7	164.2	150.4	145.2
62.5°	124.4	143.4	144.8	132.8	128.2
65°	109.9	125.8	126.5	116.3	112.0
67.5°	95.8	108.9	108.9	100.1	96.5
70°	81.4	92.3	91.6	84.6	81.0
72.5°	67.6	75.4	74.7	69.4	66.9
75°	54.3	60.2	59.5	55.3	53.2
77.5°	41.6	45.8	45.1	42.3	40.5
80°	29.9	32.4	32.1	29.9	28.9
82.5°	19.7	21.1	20.4	19.0	18.3
85°	10.6	10.9	10.9	10.2	9.9
87.5°	3.9	3.9	3.9	3.9	3.5
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	15.70	17.30	16.06	17.61	17.92	15.48	17.08	15.85	17.40	17.71
	3H	17.20	18.64	17.58	18.97	19.33	16.95	18.39	17.33	18.72	19.08
	4H	17.70	19.06	18.10	19.40	19.78	17.45	18.80	17.85	19.15	19.53
	6H	18.02	19.28	18.44	19.64	20.03	17.77	19.02	18.18	19.38	19.77
	8H	18.11	19.30	18.53	19.69	20.09	17.84	19.04	18.27	19.42	19.82
	12H	18.15	19.29	18.58	19.67	20.10	17.88	19.02	18.31	19.40	19.83
4H	2H	16.32	17.67	16.72	18.02	18.40	16.15	17.50	16.55	17.85	18.23
	3H	18.05	19.18	18.46	19.57	19.97	17.82	18.95	18.23	19.34	19.74
	4H	18.68	19.69	19.11	20.11	20.54	18.41	19.43	18.85	19.85	20.28
	6H	19.10	19.99	19.56	20.43	20.89	18.83	19.71	19.28	20.15	20.61
	8H	19.22	20.04	19.68	20.49	20.95	18.93	19.76	19.39	20.20	20.67
	12H	19.28	20.02	19.76	20.50	20.97	18.99	19.73	19.47	20.21	20.68
8H	4H	18.92	19.75	19.38	20.19	20.66	18.69	19.51	19.15	19.96	20.42
	6H	19.44	20.13	19.94	20.62	21.09	19.19	19.87	19.68	20.36	20.84
	8H	19.61	20.22	20.12	20.73	21.22	19.33	19.95	19.85	20.46	20.94
	12H	19.71	20.26	20.22	20.75	21.31	19.43	19.98	19.94	20.47	21.03
12H	4H	18.93	19.67	19.41	20.15	20.62	18.70	19.45	19.19	19.92	20.39
	6H	19.46	20.08	19.97	20.59	21.07	19.22	19.83	19.73	20.34	20.83
	8H	19.67	20.22	20.18	20.71	21.27	19.41	19.95	19.92	20.44	21.01