

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: P1439919

Luminaire Tested: S124DR-H485D935-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439919
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-H485D935-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

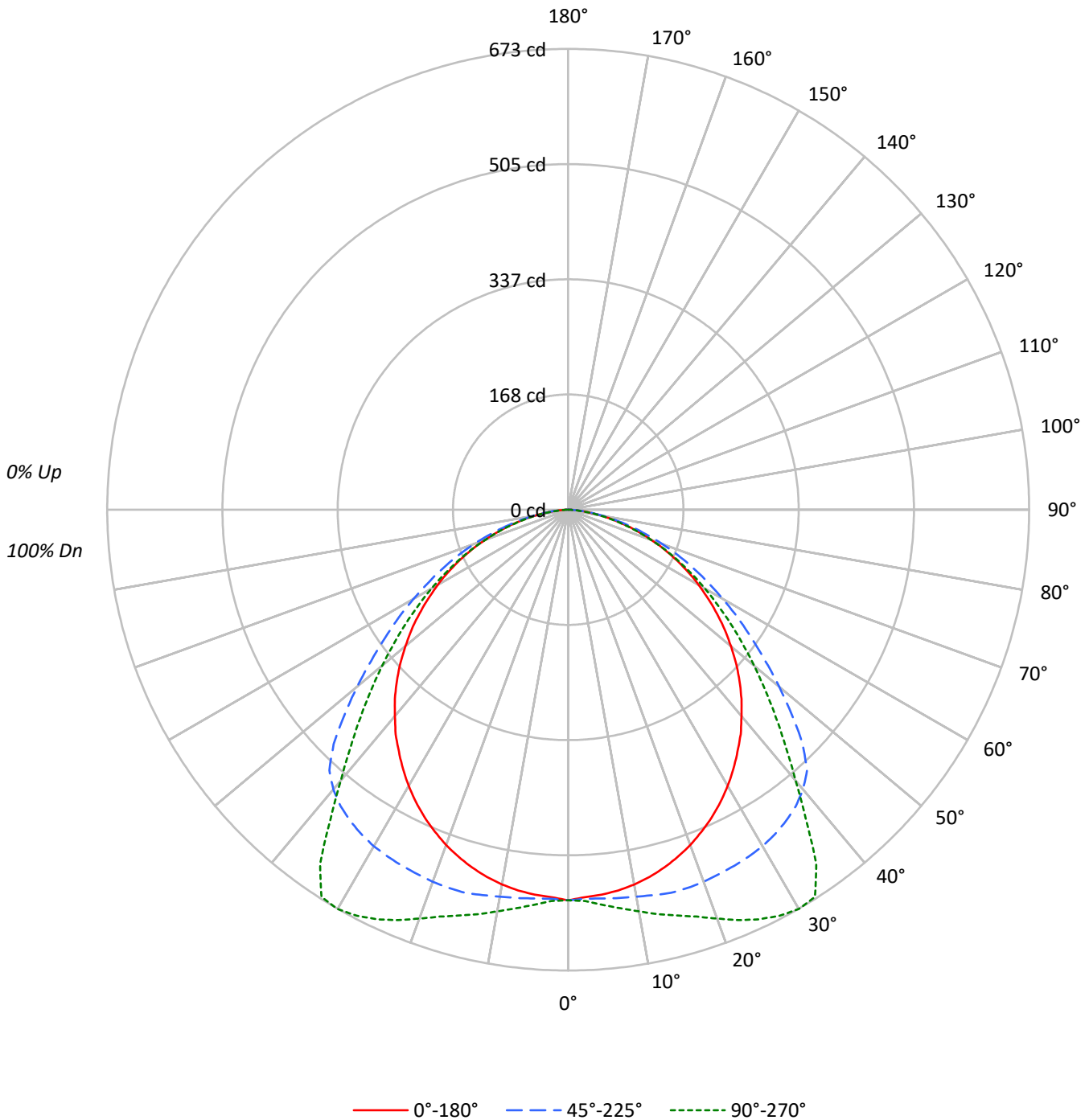
Lumens per Lamp: N/A
Luminaire Lumens: 1733.3 lumens
Efficiency: N/A
Efficacy: 100.2 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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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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	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°	5042	5042	5042
5°	5007	5057	5141
10°	4990	5151	5346
15°	4954	5302	5615
20°	4903	5440	5977
25°	4838	5597	6438
30°	4754	5794	6874
35°	4652	5987	6815
40°	4542	6156	5962
45°	4423	6053	5360
50°	4265	5528	4873
55°	4089	5030	4452
60°	3890	4612	4078
65°	3653	4203	3724
70°	3342	3761	3327
75°	2945	3232	2887
80°	2424	2592	2337
85°	1704	1765	1593

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 6053 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.7	3.2
10°-20°	164.0	9.5
20°-30°	267.0	15.4
30°-40°	339.0	19.6
40°-50°	330.3	19.1
50°-60°	270.8	15.6
60°-70°	189.0	10.9
70°-80°	97.0	5.6
80°-90°	21.5	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°	485.7	28.0
0°-40°	824.7	47.6
0°-60°	1425.9	82.3
0°-90°	1733.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1733.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	570	570	570	570	570	
5°	564	573	570	574	579	54
15°	541	558	579	602	613	153
25°	496	528	574	633	660	228
35°	431	473	555	635	631	270
45°	354	397	484	444	429	273
55°	265	306	326	299	289	237
65°	175	200	201	185	178	173
75°	86	96	95	88	84	92
85°	17	17	17	16	16	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	570.3	570.3	570.3	570.3	570.3
2.5°	566.4	573.7	568.7	570.9	572.0
5°	564.2	572.6	569.8	573.7	579.3
7.5°	560.8	570.3	572.0	579.9	587.1
10°	555.8	567.0	573.7	587.1	595.5
12.5°	549.1	563.1	576.5	595.0	605.0
15°	541.2	558.0	579.3	602.2	613.4
17.5°	531.7	551.9	579.3	607.8	623.0
20°	521.1	544.6	578.2	615.1	635.3
22.5°	508.8	536.8	575.9	623.5	648.7
25°	495.9	527.8	573.7	633.0	659.9
27.5°	481.4	517.2	570.9	640.3	668.3
30°	465.7	504.3	567.5	643.7	673.3
32.5°	448.9	489.2	561.9	643.7	670.5
35°	431.0	473.0	554.7	635.3	631.4
37.5°	413.6	455.6	545.7	594.4	569.8
40°	393.5	437.1	533.4	536.8	516.6
42.5°	374.4	417.5	516.1	488.1	470.2
45°	353.7	397.4	484.1	443.8	428.7
47.5°	332.5	375.6	442.7	404.1	390.1
50°	310.1	353.7	401.9	366.6	354.3
52.5°	288.3	330.2	362.7	331.9	320.2
55°	265.3	306.2	326.3	298.9	288.8
57.5°	242.4	281.5	293.3	268.1	258.6
60°	220.0	255.2	260.8	239.0	230.6
62.5°	197.6	227.8	230.0	211.0	203.7
65°	174.6	199.8	200.9	184.7	178.0
67.5°	152.2	173.0	173.0	159.0	153.4
70°	129.3	146.6	145.5	134.3	128.7
72.5°	107.5	119.8	118.7	110.3	106.3
75°	86.2	95.7	94.6	87.9	84.5
77.5°	66.0	72.8	71.6	67.2	64.4
80°	47.6	51.5	50.9	47.6	45.9
82.5°	31.3	33.6	32.5	30.2	29.1
85°	16.8	17.4	17.4	16.2	15.7
87.5°	6.2	6.2	6.2	6.2	5.6
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	17.30	18.90	17.67	19.22	19.53	17.09	18.69	17.45	19.00	19.32
	3H	18.81	20.25	19.19	20.57	20.94	18.56	20.00	18.94	20.33	20.69
	4H	19.31	20.66	19.71	21.01	21.39	19.06	20.41	19.46	20.76	21.13
	6H	19.63	20.88	20.04	21.25	21.64	19.37	20.63	19.78	20.99	21.38
	8H	19.71	20.91	20.14	21.30	21.70	19.45	20.64	19.87	21.03	21.43
	12H	19.75	20.90	20.18	21.28	21.71	19.48	20.63	19.91	21.01	21.44
4H	2H	17.93	19.28	18.33	19.63	20.00	17.76	19.11	18.16	19.46	19.84
	3H	19.66	20.78	20.07	21.18	21.58	19.43	20.55	19.83	20.95	21.35
	4H	20.28	21.30	20.72	21.72	22.15	20.02	21.04	20.45	21.45	21.89
	6H	20.71	21.60	21.17	22.04	22.50	20.44	21.32	20.89	21.76	22.22
	8H	20.83	21.65	21.29	22.10	22.56	20.54	21.37	21.00	21.81	22.28
	12H	20.89	21.63	21.37	22.11	22.58	20.60	21.34	21.08	21.82	22.29
8H	4H	20.53	21.35	20.99	21.80	22.26	20.29	21.12	20.76	21.57	22.03
	6H	21.05	21.74	21.54	22.23	22.70	20.80	21.48	21.29	21.97	22.45
	8H	21.21	21.83	21.73	22.34	22.82	20.94	21.56	21.45	22.07	22.55
	12H	21.32	21.87	21.83	22.36	22.92	21.04	21.59	21.55	22.08	22.64
12H	4H	20.54	21.28	21.02	21.76	22.23	20.31	21.05	20.79	21.53	22.00
	6H	21.07	21.69	21.58	22.20	22.68	20.83	21.44	21.34	21.95	22.44
	8H	21.28	21.83	21.79	22.32	22.88	21.02	21.56	21.53	22.05	22.62