

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: P1439931

Luminaire Tested: S124DR-H865D830-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439931
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-H865D830-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

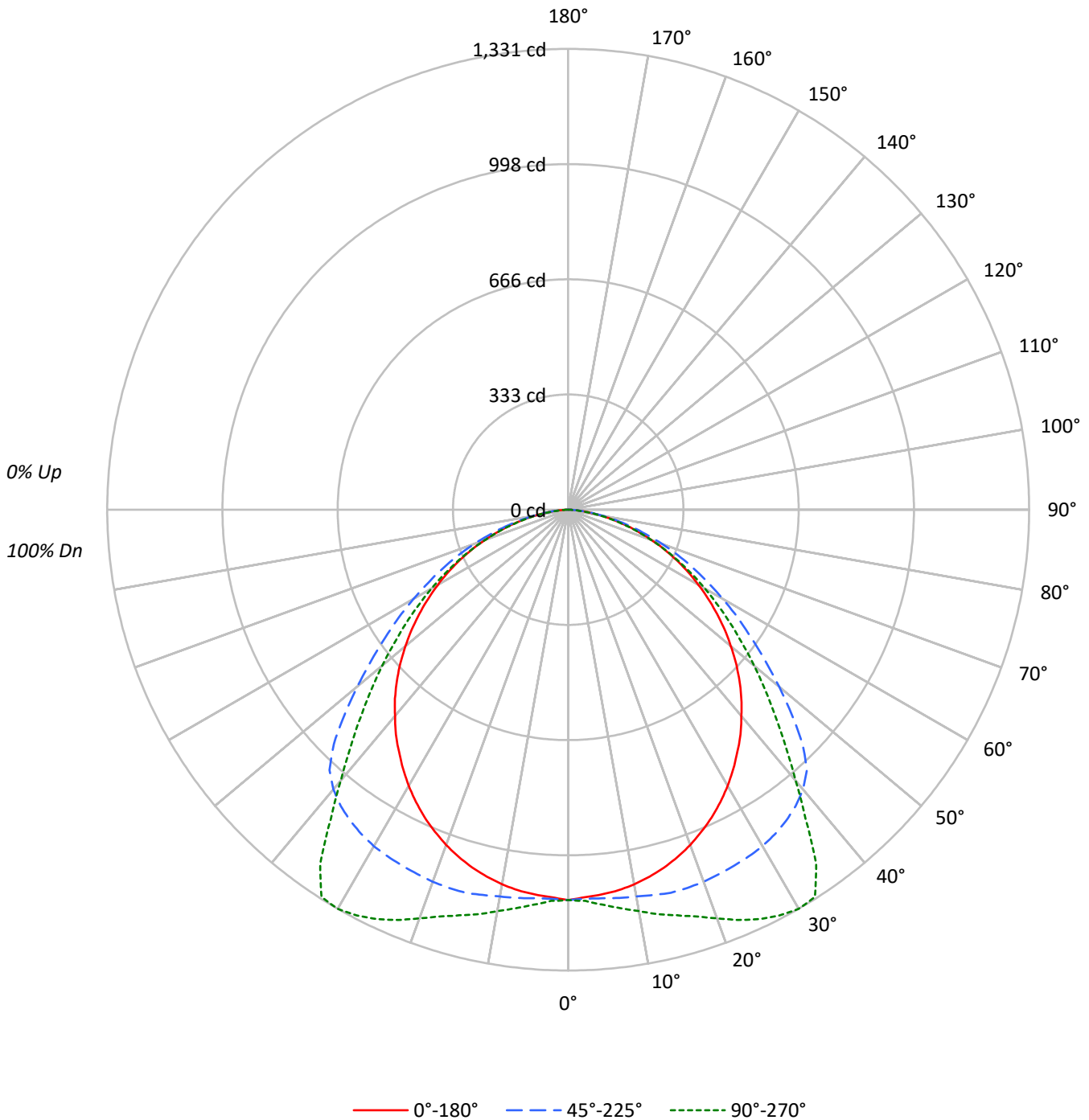
Lumens per Lamp: N/A
Luminaire Lumens: 3427.1 lumens
Efficiency: N/A
Efficacy: 110.9 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
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	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°	9970	9970	9970
5°	9900	9999	10166
10°	9866	10183	10571
15°	9795	10484	11102
20°	9694	10756	11817
25°	9565	11066	12728
30°	9400	11456	13591
35°	9197	11837	13473
40°	8979	12172	11789
45°	8745	11968	10599
50°	8433	10930	9635
55°	8086	9945	8802
60°	7690	9119	8062
65°	7224	8312	7362
70°	6607	7437	6579
75°	5821	6388	5708
80°	4791	5127	4618
85°	3368	3480	3145

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 11968 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.2	3.2
10°-20°	324.3	9.5
20°-30°	527.8	15.4
30°-40°	670.3	19.6
40°-50°	653.1	19.1
50°-60°	535.5	15.6
60°-70°	373.6	10.9
70°-80°	191.7	5.6
80°-90°	42.5	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°	960.3	28.0
0°-40°	1630.6	47.6
0°-60°	2819.2	82.3
0°-90°	3427.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3427.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1128	1128	1128	1128	1128	
5°	1116	1132	1127	1134	1145	106
15°	1070	1103	1145	1191	1213	302
25°	980	1044	1134	1252	1305	451
35°	852	935	1097	1256	1248	533
45°	699	786	957	878	848	539
55°	525	605	645	591	571	469
65°	345	395	397	365	352	342
75°	170	189	187	174	167	181
85°	33	34	34	32	31	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1127.7	1127.7	1127.7	1127.7	1127.7
2.5°	1119.9	1134.3	1124.4	1128.8	1131.0
5°	1115.5	1132.1	1126.6	1134.3	1145.4
7.5°	1108.9	1127.7	1131.0	1146.5	1160.9
10°	1098.9	1121.0	1134.3	1160.9	1177.5
12.5°	1085.6	1113.3	1139.8	1176.4	1196.3
15°	1070.1	1103.3	1145.4	1190.8	1212.9
17.5°	1051.3	1091.2	1145.4	1201.8	1231.7
20°	1030.3	1076.8	1143.2	1216.2	1256.0
22.5°	1005.9	1061.3	1138.7	1232.8	1282.6
25°	980.5	1043.6	1134.3	1251.6	1304.7
27.5°	951.7	1022.5	1128.8	1266.0	1321.3
30°	920.7	997.1	1122.1	1272.6	1331.3
32.5°	887.5	967.2	1111.1	1272.6	1325.8
35°	852.1	935.1	1096.7	1256.0	1248.3
37.5°	817.8	900.8	1079.0	1175.3	1126.6
40°	778.0	864.3	1054.6	1061.3	1021.4
42.5°	740.3	825.6	1020.3	965.0	929.6
45°	699.4	785.7	957.2	877.6	847.7
47.5°	657.3	742.6	875.4	799.0	771.3
50°	613.1	699.4	794.6	724.9	700.5
52.5°	569.9	652.9	717.1	656.2	633.0
55°	524.6	605.3	645.2	590.9	571.0
57.5°	479.2	556.6	579.9	530.1	511.3
60°	434.9	504.6	515.7	472.5	455.9
62.5°	390.6	450.4	454.8	417.2	402.8
65°	345.3	395.1	397.3	365.2	351.9
67.5°	301.0	342.0	342.0	314.3	303.2
70°	255.6	289.9	287.7	265.6	254.5
72.5°	212.5	236.8	234.6	218.0	210.3
75°	170.4	189.2	187.0	173.7	167.1
77.5°	130.6	143.9	141.7	132.8	127.3
80°	94.1	101.8	100.7	94.1	90.7
82.5°	62.0	66.4	64.2	59.8	57.5
85°	33.2	34.3	34.3	32.1	31.0
87.5°	12.2	12.2	12.2	12.2	11.1
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	19.67	21.27	20.04	21.59	21.90	19.46	21.06	19.82	21.37	21.69
	3H	21.18	22.62	21.55	22.94	23.30	20.93	22.37	21.31	22.70	23.06
	4H	21.68	23.03	22.08	23.38	23.76	21.43	22.78	21.82	23.13	23.50
	6H	22.00	23.25	22.41	23.62	24.01	21.74	22.99	22.15	23.36	23.75
	8H	22.08	23.28	22.51	23.67	24.07	21.82	23.01	22.24	23.40	23.80
	12H	22.12	23.27	22.55	23.65	24.08	21.85	23.00	22.28	23.38	23.81
4H	2H	20.30	21.65	20.69	22.00	22.37	20.13	21.48	20.53	21.83	22.20
	3H	22.03	23.15	22.44	23.55	23.95	21.79	22.92	22.20	23.32	23.72
	4H	22.65	23.67	23.08	24.08	24.52	22.39	23.41	22.82	23.82	24.26
	6H	23.08	23.97	23.54	24.41	24.86	22.80	23.69	23.26	24.13	24.59
	8H	23.19	24.02	23.66	24.46	24.93	22.91	23.73	23.37	24.18	24.64
	12H	23.26	24.00	23.74	24.48	24.95	22.97	23.71	23.45	24.18	24.65
8H	4H	22.90	23.72	23.36	24.17	24.63	22.66	23.49	23.12	23.93	24.40
	6H	23.42	24.10	23.91	24.59	25.07	23.16	23.85	23.66	24.34	24.81
	8H	23.58	24.20	24.09	24.71	25.19	23.31	23.93	23.82	24.43	24.92
	12H	23.69	24.24	24.20	24.73	25.29	23.41	23.96	23.92	24.45	25.01
12H	4H	22.91	23.65	23.39	24.12	24.59	22.68	23.42	23.16	23.90	24.37
	6H	23.44	24.06	23.95	24.56	25.05	23.19	23.81	23.70	24.32	24.80
	8H	23.65	24.19	24.16	24.69	25.25	23.39	23.93	23.89	24.42	24.98