

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: P1439922

Luminaire Tested: S124DR-H675D830-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439922
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-H675D830-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

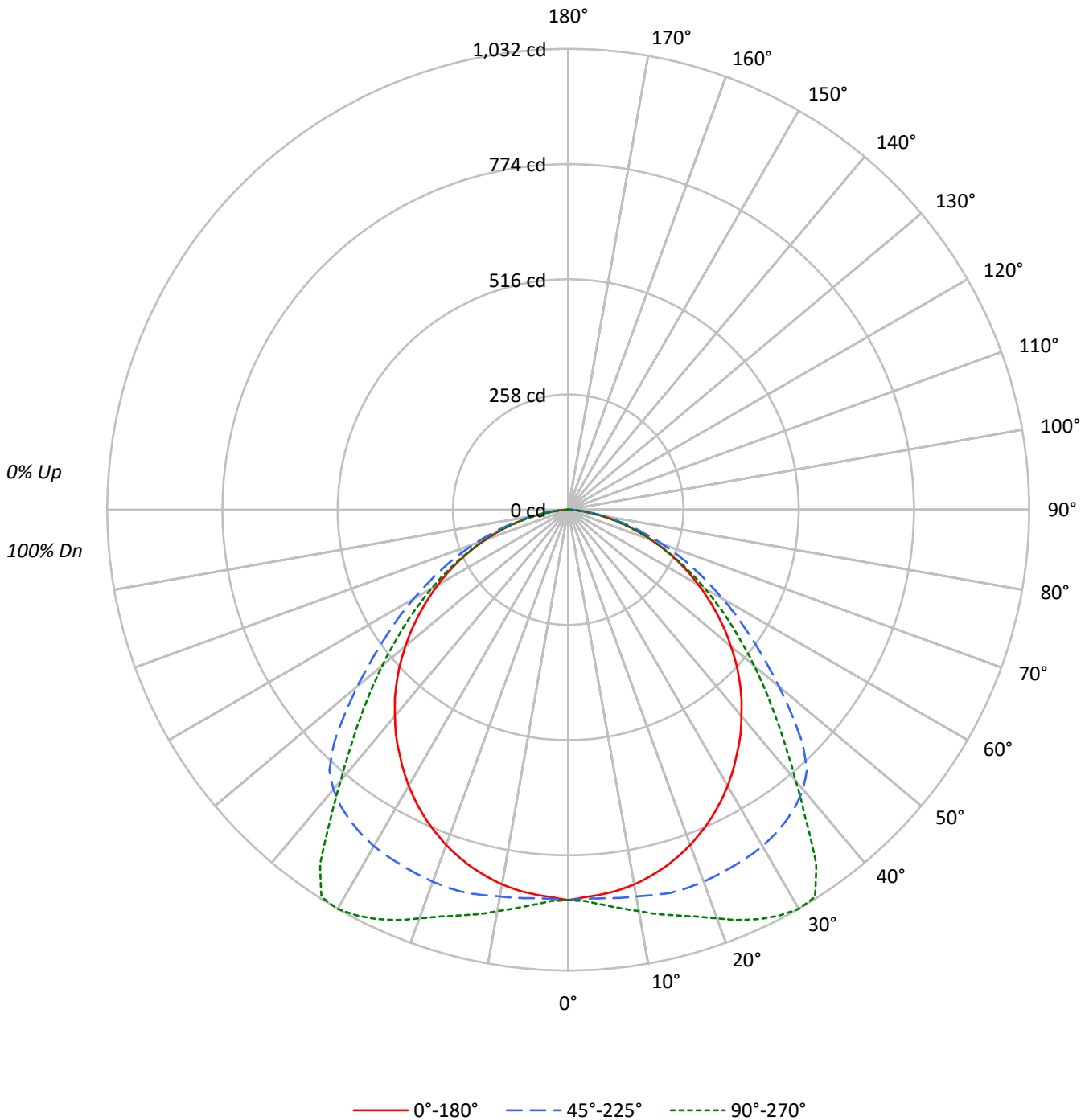
Lumens per Lamp: N/A
Luminaire Lumens: 2657.4 lumens
Efficiency: N/A
Efficacy: 111.7 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
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

TEST NUMBER: P1439922

CATALOG NUMBER: S124DR-H675D830-X4F0-XX-UDD-FLB-W

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	67	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°	7731	7731	7731
5°	7677	7753	7882
10°	7650	7897	8197
15°	7595	8129	8609
20°	7517	8340	9164
25°	7417	8581	9870
30°	7288	8883	10539
35°	7131	9179	10447
40°	6963	9439	9141
45°	6781	9281	8219
50°	6539	8474	7472
55°	6269	7712	6826
60°	5963	7071	6251
65°	5600	6446	5709
70°	5124	5767	5103
75°	4513	4953	4427
80°	3712	3976	3584
85°	2607	2698	2435

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 9281 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.9	3.2
10°-20°	251.4	9.5
20°-30°	409.3	15.4
30°-40°	519.7	19.6
40°-50°	506.5	19.1
50°-60°	415.2	15.6
60°-70°	289.7	10.9
70°-80°	148.7	5.6
80°-90°	33.0	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°	744.6	28.0
0°-40°	1264.4	47.6
0°-60°	2186.0	82.3
0°-90°	2657.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2657.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	874	874	874	874	874	
5°	865	878	874	880	888	82
15°	830	856	888	923	940	234
25°	760	809	880	970	1012	350
35°	661	725	850	974	968	414
45°	542	609	742	680	657	418
55°	407	469	500	458	443	364
65°	268	306	308	283	273	265
75°	132	147	145	135	130	141
85°	26	27	27	25	24	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	874.4	874.4	874.4	874.4	874.4
2.5°	868.4	879.6	871.8	875.3	877.0
5°	865.0	877.8	873.6	879.6	888.1
7.5°	859.8	874.4	877.0	889.0	900.2
10°	852.1	869.3	879.6	900.2	913.0
12.5°	841.8	863.3	883.9	912.2	927.6
15°	829.8	855.5	888.1	923.3	940.5
17.5°	815.2	846.1	888.1	931.9	955.1
20°	798.9	834.9	886.4	943.1	974.0
22.5°	780.0	822.9	883.0	955.9	994.5
25°	760.3	809.2	879.6	970.5	1011.7
27.5°	738.0	792.9	875.3	981.7	1024.6
30°	713.9	773.2	870.1	986.8	1032.3
32.5°	688.2	750.0	861.5	986.8	1028.0
35°	660.7	725.1	850.4	974.0	967.9
37.5°	634.1	698.5	836.7	911.3	873.6
40°	603.3	670.2	817.8	822.9	792.0
42.5°	574.1	640.1	791.2	748.3	720.8
45°	542.3	609.3	742.3	680.5	657.3
47.5°	509.7	575.8	678.8	619.6	598.1
50°	475.4	542.3	616.1	562.1	543.2
52.5°	441.9	506.3	556.1	508.9	490.8
55°	406.7	469.4	500.3	458.2	442.8
57.5°	371.6	431.6	449.6	411.0	396.4
60°	337.2	391.3	399.9	366.4	353.5
62.5°	302.9	349.3	352.7	323.5	312.4
65°	267.7	306.3	308.1	283.2	272.9
67.5°	233.4	265.2	265.2	243.7	235.1
70°	198.2	224.8	223.1	205.9	197.4
72.5°	164.8	183.6	181.9	169.0	163.0
75°	132.1	146.7	145.0	134.7	129.6
77.5°	101.3	111.6	109.8	103.0	98.7
80°	72.9	78.9	78.1	72.9	70.4
82.5°	48.1	51.5	49.8	46.3	44.6
85°	25.7	26.6	26.6	24.9	24.0
87.5°	9.4	9.4	9.4	9.4	8.6
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	18.79	20.39	19.15	20.70	21.02	18.57	20.17	18.94	20.49	20.80
	3H	20.29	21.73	20.67	22.06	22.42	20.04	21.48	20.42	21.81	22.17
	4H	20.80	22.15	21.19	22.50	22.87	20.54	21.89	20.94	22.24	22.62
	6H	21.12	22.37	21.53	22.73	23.13	20.86	22.11	21.27	22.47	22.87
	8H	21.20	22.39	21.62	22.78	23.18	20.93	22.13	21.36	22.52	22.92
	12H	21.24	22.38	21.67	22.76	23.19	20.97	22.11	21.40	22.49	22.92
4H	2H	19.41	20.77	19.81	21.11	21.49	19.24	20.60	19.64	20.94	21.32
	3H	21.14	22.27	21.55	22.67	23.07	20.91	22.04	21.32	22.44	22.84
	4H	21.77	22.79	22.20	23.20	23.64	21.51	22.52	21.94	22.94	23.37
	6H	22.20	23.08	22.65	23.52	23.98	21.92	22.81	22.37	23.25	23.70
	8H	22.31	23.14	22.77	23.58	24.05	22.02	22.85	22.48	23.29	23.76
	12H	22.37	23.12	22.86	23.59	24.06	22.08	22.82	22.56	23.30	23.77
8H	4H	22.01	22.84	22.47	23.28	23.75	21.78	22.61	22.24	23.05	23.52
	6H	22.53	23.22	23.03	23.71	24.19	22.28	22.97	22.77	23.45	23.93
	8H	22.70	23.31	23.21	23.82	24.31	22.43	23.04	22.94	23.55	24.04
	12H	22.81	23.35	23.32	23.84	24.41	22.53	23.07	23.03	23.56	24.12
12H	4H	22.02	22.76	22.50	23.24	23.71	21.80	22.54	22.28	23.02	23.49
	6H	22.56	23.17	23.07	23.68	24.17	22.31	22.93	22.82	23.43	23.92
	8H	22.77	23.31	23.27	23.80	24.36	22.50	23.05	23.01	23.54	24.10