

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: P1439979

Luminaire Tested: S124DR-S865D850-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439979
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-S865D850-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

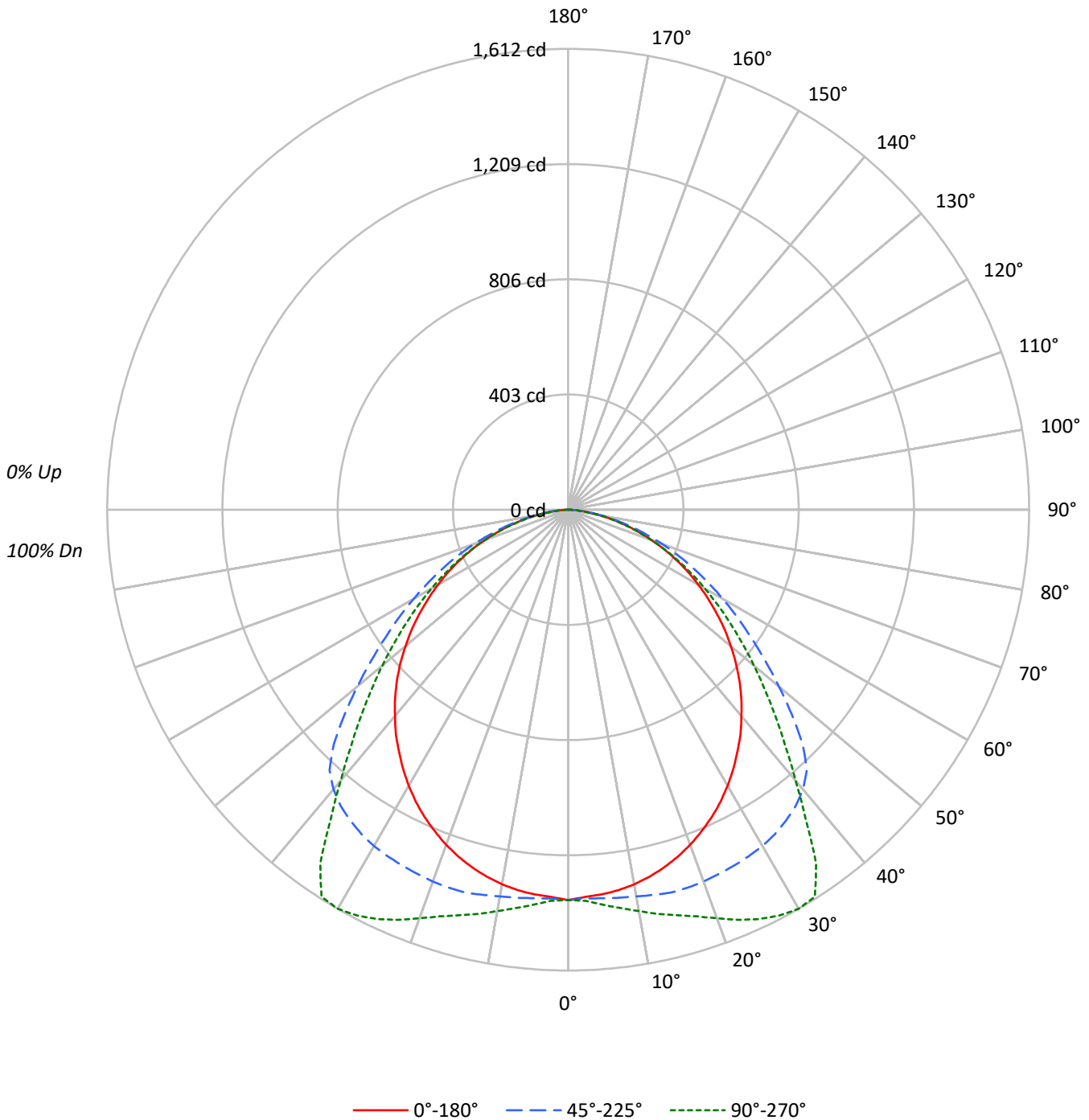
Lumens per Lamp: N/A
Luminaire Lumens: 4149.3 lumens
Efficiency: N/A
Efficacy: 119.6 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 34.7
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

TEST NUMBER: P1439979

CATALOG NUMBER: S124DR-S865D850-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	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	100	100	100	100		
	1	109	105	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85	85	85	85	85	85		
	2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73	71	71	71	71	71	71		
	3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	66	63	60	60	60	60	60	60		
	4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54	52	52	52	52	52	52		
	5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	52	47	45	45	45	45	45	45		
	6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39	39	39	39	39	39		
	7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35	35	35	35	35	35		
	8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31	31	31	31	31	31		
	9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28	28	28	28	28	28		
	10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25	25	25	25	25	25		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12071	12071	12071
5°	11987	12106	12307
10°	11945	12329	12799
15°	11859	12693	13442
20°	11737	13023	14308
25°	11581	13397	15411
30°	11381	13870	16455
35°	11135	14331	16313
40°	10871	14737	14273
45°	10588	14492	12832
50°	10210	13232	11665
55°	9790	12040	10658
60°	9312	11041	9761
65°	8745	10063	8914
70°	8001	9006	7967
75°	7047	7734	6911
80°	5799	6207	5596
85°	4078	4210	3804

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 14492 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.0	3.2
10°-20°	392.6	9.5
20°-30°	639.0	15.4
30°-40°	811.5	19.6
40°-50°	790.8	19.1
50°-60°	648.3	15.6
60°-70°	452.4	10.9
70°-80°	232.2	5.6
80°-90°	51.5	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°	1162.7	28.0
0°-40°	1974.2	47.6
0°-60°	3413.3	82.3
0°-90°	4149.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4149.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1365	1365	1365	1365	1365	
5°	1351	1371	1364	1373	1387	128
15°	1296	1336	1387	1442	1468	365
25°	1187	1264	1373	1515	1580	547
35°	1032	1132	1328	1521	1511	646
45°	847	951	1159	1062	1026	653
55°	635	733	781	716	691	568
65°	418	478	481	442	426	414
75°	206	229	226	210	202	220
85°	40	42	42	39	38	51
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1365.3	1365.3	1365.3	1365.3	1365.3
2.5°	1355.9	1373.3	1361.3	1366.6	1369.3
5°	1350.6	1370.7	1364.0	1373.3	1386.7
7.5°	1342.5	1365.3	1369.3	1388.1	1405.5
10°	1330.5	1357.3	1373.3	1405.5	1425.6
12.5°	1314.4	1347.9	1380.0	1424.3	1448.4
15°	1295.6	1335.8	1386.7	1441.7	1468.5
17.5°	1272.9	1321.1	1386.7	1455.1	1491.3
20°	1247.4	1303.7	1384.1	1472.5	1520.7
22.5°	1217.9	1284.9	1378.7	1492.6	1552.9
25°	1187.1	1263.5	1373.3	1515.4	1579.7
27.5°	1152.3	1238.0	1366.6	1532.8	1599.8
30°	1114.8	1207.2	1358.6	1540.8	1611.8
32.5°	1074.6	1171.0	1345.2	1540.8	1605.1
35°	1031.7	1132.2	1327.8	1520.7	1511.4
37.5°	990.1	1090.6	1306.4	1422.9	1364.0
40°	941.9	1046.4	1276.9	1284.9	1236.7
42.5°	896.4	999.5	1235.3	1168.3	1125.5
45°	846.8	951.3	1159.0	1062.5	1026.3
47.5°	795.9	899.0	1059.8	967.4	933.9
50°	742.3	846.8	962.0	877.6	848.1
52.5°	690.0	790.5	868.2	794.5	766.4
55°	635.1	732.9	781.1	715.5	691.4
57.5°	580.2	673.9	702.1	641.8	619.0
60°	526.6	611.0	624.4	572.1	552.0
62.5°	473.0	545.3	550.7	505.1	487.7
65°	418.0	478.3	481.0	442.2	426.1
67.5°	364.4	414.0	414.0	380.5	367.1
70°	309.5	351.0	348.4	321.6	308.2
72.5°	257.3	286.7	284.0	264.0	254.6
75°	206.3	229.1	226.4	210.4	202.3
77.5°	158.1	174.2	171.5	160.8	154.1
80°	113.9	123.3	121.9	113.9	109.9
82.5°	75.0	80.4	77.7	72.4	69.7
85°	40.2	41.5	41.5	38.9	37.5
87.5°	14.7	14.7	14.7	14.7	13.4
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	20.34	21.94	20.70	22.25	22.57	20.12	21.72	20.49	22.04	22.35
	3H	21.84	23.28	22.22	23.61	23.97	21.59	23.03	21.97	23.36	23.72
	4H	22.34	23.70	22.74	24.04	24.42	22.09	23.44	22.49	23.79	24.17
	6H	22.66	23.92	23.08	24.28	24.67	22.41	23.66	22.82	24.02	24.41
	8H	22.75	23.94	23.17	24.33	24.73	22.48	23.68	22.91	24.07	24.47
	12H	22.79	23.93	23.22	24.31	24.74	22.52	23.66	22.95	24.04	24.47
4H	2H	20.96	22.31	21.36	22.66	23.04	20.79	22.14	21.19	22.49	22.87
	3H	22.69	23.82	23.10	24.22	24.62	22.46	23.59	22.87	23.98	24.38
	4H	23.32	24.33	23.75	24.75	25.18	23.06	24.07	23.49	24.49	24.92
	6H	23.75	24.63	24.20	25.07	25.53	23.47	24.35	23.92	24.80	25.25
	8H	23.86	24.69	24.32	25.13	25.59	23.57	24.40	24.03	24.84	25.31
	12H	23.92	24.66	24.40	25.14	25.61	23.63	24.37	24.11	24.85	25.32
8H	4H	23.56	24.39	24.02	24.83	25.30	23.33	24.16	23.79	24.60	25.06
	6H	24.08	24.77	24.58	25.26	25.73	23.83	24.51	24.32	25.00	25.48
	8H	24.25	24.86	24.76	25.37	25.86	23.98	24.59	24.49	25.10	25.59
	12H	24.36	24.90	24.86	25.39	25.95	24.08	24.62	24.58	25.11	25.67
12H	4H	23.57	24.31	24.05	24.79	25.26	23.35	24.09	23.83	24.56	25.03
	6H	24.10	24.72	24.62	25.23	25.72	23.86	24.47	24.37	24.98	25.47
	8H	24.31	24.86	24.82	25.35	25.91	24.05	24.60	24.56	25.09	25.65