

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: P1439938

Luminaire Tested: S124DR-H865D940-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439938  
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-H865D940-X4F0-XX-UDD-FLB-W  
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

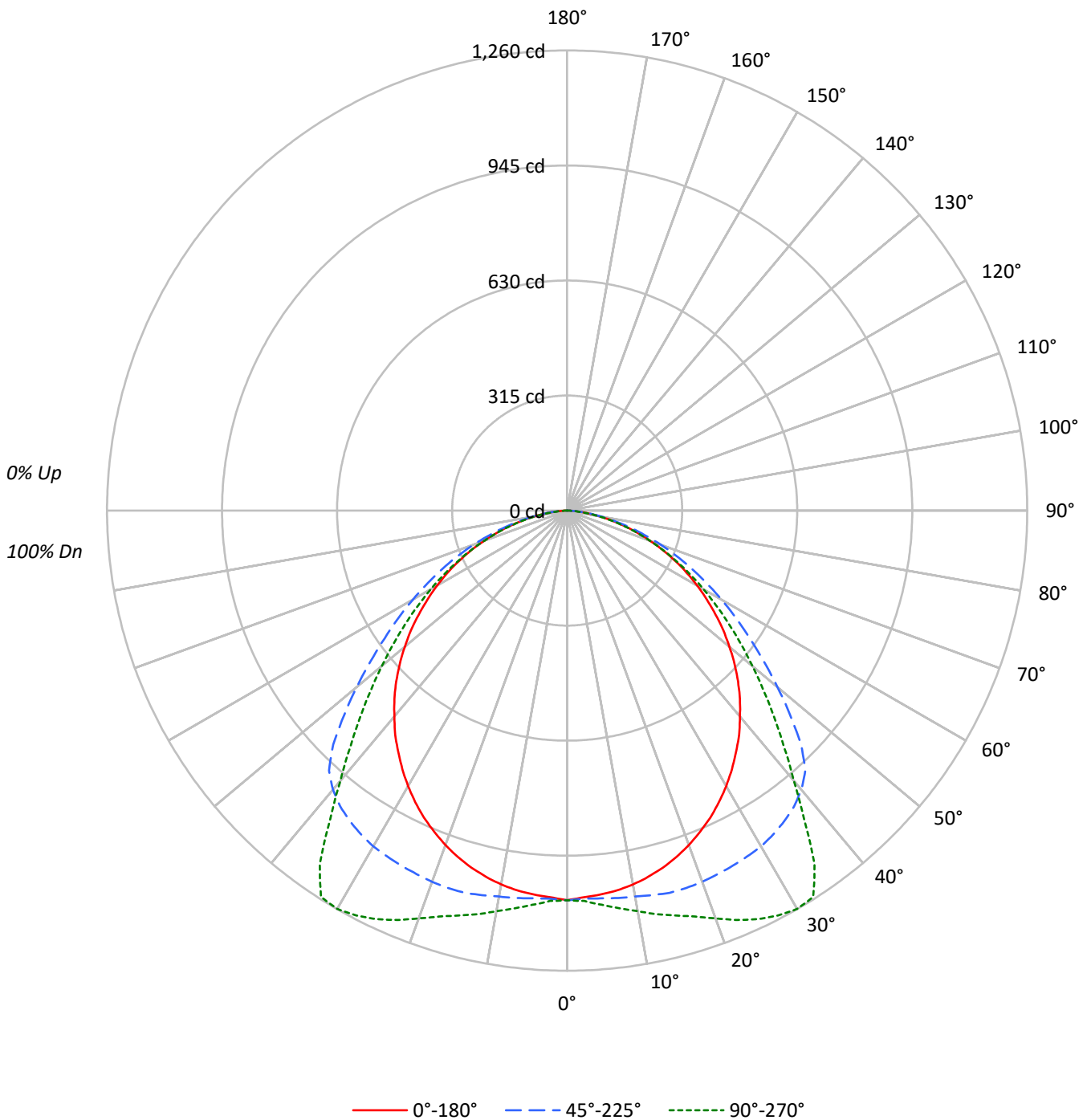
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3242.3 lumens  
Efficiency: N/A  
Efficacy: 104.9 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

TEST NUMBER: P1439938

CATALOG NUMBER: S124DR-H865D940-X4F0-XX-UDD-FLB-W

### Luminous Intensity Polar Plot





TEST NUMBER: P1439938

CATALOG NUMBER: S124DR-H865D940-X4F0-XX-UDD-FLB-W

**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°	9433	9433	9433
5°	9366	9459	9617
10°	9333	9634	10001
15°	9267	9918	10503
20°	9171	10176	11180
25°	9049	10468	12042
30°	8893	10838	12858
35°	8702	11198	12747
40°	8495	11516	11153
45°	8274	11323	10028
50°	7978	10339	9115
55°	7650	9409	8327
60°	7276	8627	7627
65°	6835	7864	6964
70°	6251	7036	6225
75°	5507	6043	5401
80°	4531	4852	4374
85°	3185	3297	2972

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 11323 cd/sqm



TEST NUMBER: P1439938

CATALOG NUMBER: S124DR-H865D940-X4F0-XX-UDD-FLB-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.4	3.2
10°-20°	306.8	9.5
20°-30°	499.3	15.4
30°-40°	634.1	19.6
40°-50°	617.9	19.1
50°-60°	506.6	15.6
60°-70°	353.5	10.9
70°-80°	181.4	5.6
80°-90°	40.2	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°	908.5	28.0
0°-40°	1542.6	47.6
0°-60°	2667.1	82.3
0°-90°	3242.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3242.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1067	1067	1067	1067	1067	
5°	1055	1071	1066	1073	1084	100
15°	1012	1044	1084	1126	1148	285
25°	928	987	1073	1184	1234	427
35°	806	885	1038	1188	1181	505
45°	662	743	906	830	802	510
55°	496	573	610	559	540	444
65°	327	374	376	346	333	323
75°	161	179	177	164	158	172
85°	31	32	32	30	29	40
90°	0	0	0	0	0	



TEST NUMBER: P1439938

CATALOG NUMBER: S124DR-H865D940-X4F0-XX-UDD-FLB-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1066.9	1066.9	1066.9	1066.9	1066.9
2.5°	1059.5	1073.1	1063.7	1067.9	1070.0
5°	1055.3	1071.0	1065.8	1073.1	1083.6
7.5°	1049.1	1066.9	1070.0	1084.7	1098.3
10°	1039.6	1060.6	1073.1	1098.3	1114.0
12.5°	1027.1	1053.2	1078.4	1112.9	1131.8
15°	1012.4	1043.8	1083.6	1126.5	1147.5
17.5°	994.6	1032.3	1083.6	1137.0	1165.3
20°	974.7	1018.7	1081.5	1150.6	1188.3
22.5°	951.7	1004.0	1077.3	1166.3	1213.4
25°	927.6	987.3	1073.1	1184.1	1234.4
27.5°	900.4	967.4	1067.9	1197.7	1250.1
30°	871.1	943.3	1061.6	1204.0	1259.5
32.5°	839.7	915.0	1051.2	1204.0	1254.3
35°	806.2	884.7	1037.5	1188.3	1181.0
37.5°	773.7	852.2	1020.8	1111.9	1065.8
40°	736.0	817.7	997.8	1004.0	966.3
42.5°	700.4	781.0	965.3	913.0	879.5
45°	661.7	743.3	905.6	830.2	802.0
47.5°	621.9	702.5	828.1	755.9	729.7
50°	580.0	661.7	751.7	685.8	662.7
52.5°	539.2	617.7	678.4	620.9	598.9
55°	496.3	572.7	610.4	559.1	540.2
57.5°	453.3	526.6	548.6	501.5	483.7
60°	411.5	477.4	487.9	447.1	431.3
62.5°	369.6	426.1	430.3	394.7	381.1
65°	326.7	373.8	375.9	345.5	332.9
67.5°	284.8	323.5	323.5	297.3	286.9
70°	241.8	274.3	272.2	251.3	240.8
72.5°	201.0	224.1	222.0	206.3	198.9
75°	161.2	179.0	176.9	164.4	158.1
77.5°	123.5	136.1	134.0	125.6	120.4
80°	89.0	96.3	95.3	89.0	85.9
82.5°	58.6	62.8	60.7	56.5	54.4
85°	31.4	32.5	32.5	30.4	29.3
87.5°	11.5	11.5	11.5	11.5	10.5
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P1439938

CATALOG NUMBER: S124DR-H865D940-X4F0-XX-UDD-FLB-W

**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	19.48	21.08	19.85	21.39	21.71	19.27	20.87	19.63	21.18	21.49
	3H	20.98	22.42	21.36	22.75	23.11	20.74	22.18	21.11	22.50	22.86
	4H	21.49	22.84	21.89	23.19	23.56	21.23	22.59	21.63	22.93	23.31
	6H	21.81	23.06	22.22	23.42	23.82	21.55	22.80	21.96	23.17	23.56
	8H	21.89	23.08	22.32	23.47	23.87	21.63	22.82	22.05	23.21	23.61
	12H	21.93	23.07	22.36	23.45	23.88	21.66	22.80	22.09	23.19	23.61
4H	2H	20.10	21.46	20.50	21.80	22.18	19.93	21.29	20.33	21.64	22.01
	3H	21.83	22.96	22.24	23.36	23.76	21.60	22.73	22.01	23.13	23.53
	4H	22.46	23.48	22.89	23.89	24.33	22.20	23.21	22.63	23.63	24.07
	6H	22.89	23.77	23.34	24.21	24.67	22.61	23.50	23.07	23.94	24.40
	8H	23.00	23.83	23.46	24.27	24.74	22.71	23.54	23.18	23.99	24.45
	12H	23.07	23.81	23.55	24.28	24.75	22.77	23.51	23.25	23.99	24.46
8H	4H	22.70	23.53	23.16	23.97	24.44	22.47	23.30	22.93	23.74	24.21
	6H	23.23	23.91	23.72	24.40	24.88	22.97	23.66	23.47	24.15	24.62
	8H	23.39	24.01	23.90	24.51	25.00	23.12	23.73	23.63	24.24	24.73
	12H	23.50	24.04	24.01	24.53	25.10	23.22	23.76	23.73	24.25	24.82
12H	4H	22.71	23.46	23.19	23.93	24.40	22.49	23.23	22.97	23.71	24.18
	6H	23.25	23.86	23.76	24.37	24.86	23.00	23.62	23.51	24.13	24.61
	8H	23.46	24.00	23.96	24.49	25.05	23.19	23.74	23.70	24.23	24.79