

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: P1439847

Luminaire Tested: S123DR-S865D935-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439847  
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G3-2603-719-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 4/2/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DR-S865D935-X4F0-XX-UDD-FLB-W  
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
CORE LIGHT ENGINE  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

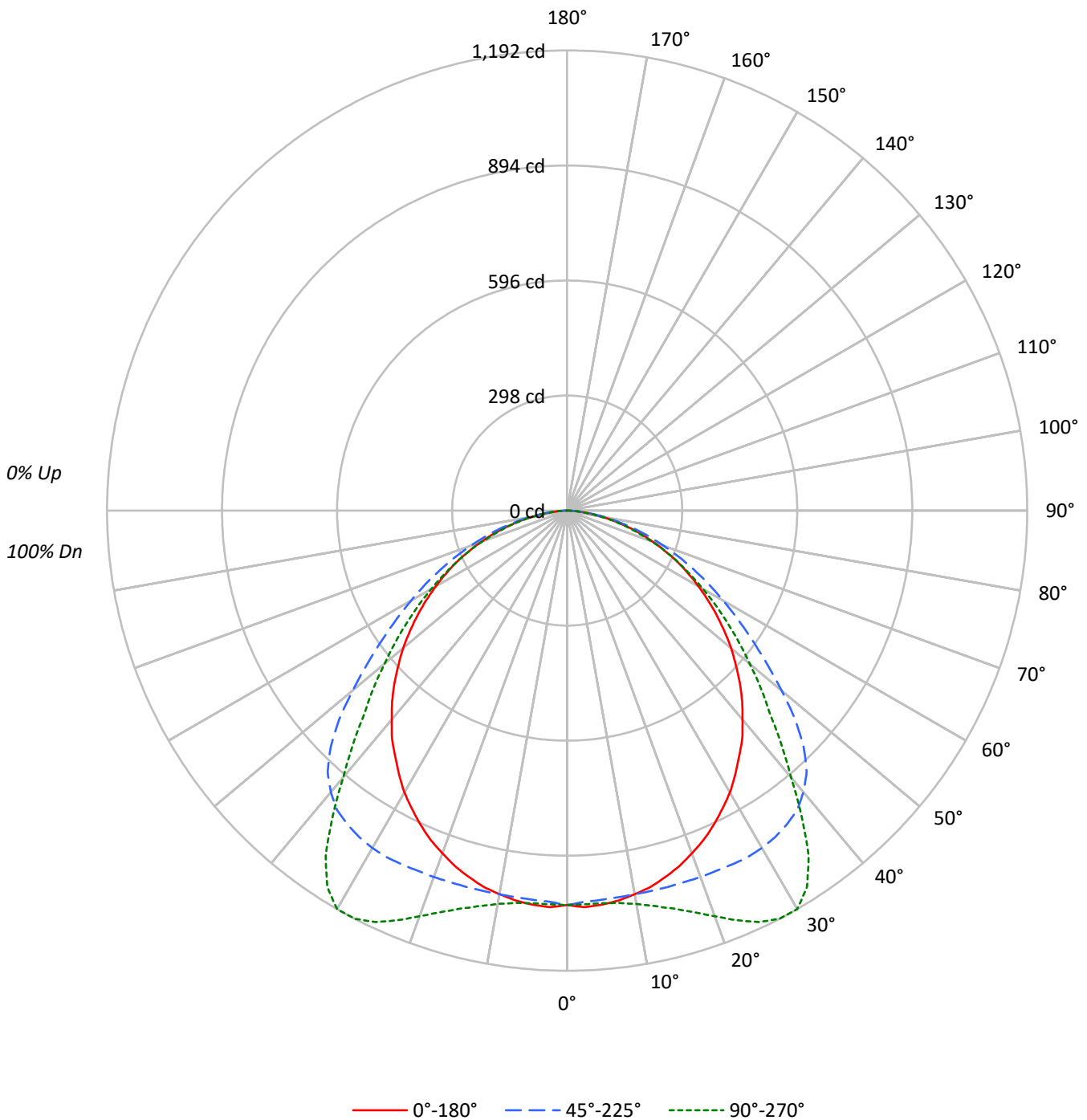
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3090.6 lumens  
Efficiency: N/A  
Efficacy: 89.1 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52  
Luminous Opening: Rectangular (W 0.23' 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

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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	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	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°	12319	12319	12319
5°	12405	12251	12354
10°	12354	12354	12665
15°	12266	12595	13322
20°	12121	12961	14344
25°	11949	13453	15645
30°	11739	14048	16593
35°	11432	14603	16050
40°	11126	14985	14202
45°	10793	14774	12648
50°	10406	13597	11575
55°	9951	12305	10640
60°	9479	11263	9785
65°	9015	10310	9043
70°	8344	9348	8196
75°	7532	8320	7332
80°	6311	6971	6013
85°	4828	5118	4537

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 14774 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	97.3	3.1
10°-20°	289.1	9.4
20°-30°	473.8	15.3
30°-40°	599.4	19.4
40°-50°	585.6	18.9
50°-60°	481.1	15.6
60°-70°	339.3	11.0
70°-80°	180.9	5.9
80°-90°	44.1	1.4
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°	860.2	27.8
0°-40°	1459.6	47.2
0°-60°	2526.3	81.7
0°-90°	3090.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3090.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1022	1022	1022	1022	1022	
5°	1025	1021	1012	1023	1021	97
15°	983	988	1009	1055	1067	277
25°	898	925	1011	1134	1176	414
35°	777	831	992	1107	1090	486
45°	633	705	866	782	742	488
55°	473	544	585	526	506	423
65°	316	361	361	330	317	312
75°	162	182	179	162	157	172
85°	35	38	37	34	33	42
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1021.8	1021.8	1021.8	1021.8	1021.8
2.5°	1028.2	1025.0	1014.4	1023.9	1020.8
5°	1025.0	1020.8	1012.3	1022.9	1020.8
7.5°	1018.7	1016.5	1010.2	1026.0	1025.0
10°	1009.1	1008.1	1009.1	1032.4	1034.5
12.5°	998.6	999.6	1009.1	1041.9	1049.3
15°	982.7	988.0	1009.1	1054.6	1067.3
17.5°	965.8	974.3	1009.1	1071.5	1090.5
20°	944.7	959.5	1010.2	1089.4	1118.0
22.5°	923.5	941.5	1010.2	1113.8	1148.6
25°	898.2	924.6	1011.3	1133.8	1176.1
27.5°	870.7	902.4	1012.3	1149.7	1191.9
30°	843.2	881.3	1009.1	1156.0	1191.9
32.5°	810.5	857.0	1002.8	1145.5	1156.0
35°	776.7	830.6	992.2	1107.4	1090.5
37.5°	745.0	802.0	978.5	1037.7	997.5
40°	706.9	771.4	952.1	948.9	902.4
42.5°	671.0	738.6	918.3	859.1	821.0
45°	633.0	704.8	866.5	782.0	741.8
47.5°	592.8	667.8	801.0	709.0	680.5
50°	554.8	629.8	724.9	642.5	617.1
52.5°	513.6	589.6	652.0	583.3	561.1
55°	473.4	544.2	585.4	526.2	506.2
57.5°	433.2	499.8	524.1	472.3	456.5
60°	393.1	453.3	467.1	422.7	405.8
62.5°	354.0	410.0	414.2	375.1	360.3
65°	316.0	361.4	361.4	329.7	317.0
67.5°	275.8	314.9	312.8	283.2	275.8
70°	236.7	269.5	265.2	240.9	232.5
72.5°	199.7	224.0	220.8	201.8	192.3
75°	161.7	181.8	178.6	161.7	157.4
77.5°	125.7	139.5	136.3	124.7	121.5
80°	90.9	101.4	100.4	91.9	86.6
82.5°	61.3	66.6	65.5	60.2	57.1
85°	34.9	38.0	37.0	33.8	32.8
87.5°	13.7	15.9	16.9	15.9	14.8
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	20.36	21.97	20.73	22.28	22.60	20.09	21.69	20.45	22.01	22.32
	3H	21.93	23.38	22.31	23.71	24.07	21.60	23.05	21.98	23.38	23.74
	4H	22.48	23.84	22.88	24.19	24.57	22.14	23.50	22.54	23.85	24.22
	6H	22.85	24.11	23.26	24.47	24.86	22.50	23.76	22.91	24.12	24.51
	8H	22.95	24.15	23.37	24.54	24.94	22.59	23.79	23.02	24.18	24.58
	12H	23.00	24.15	23.43	24.53	24.96	22.64	23.79	23.07	24.18	24.60
4H	2H	21.00	22.36	21.40	22.71	23.09	20.79	22.15	21.19	22.50	22.87
	3H	22.81	23.94	23.22	24.34	24.74	22.50	23.64	22.91	24.04	24.44
	4H	23.50	24.52	23.93	24.93	25.37	23.14	24.17	23.57	24.58	25.02
	6H	23.98	24.87	24.43	25.31	25.77	23.60	24.49	24.06	24.93	25.39
	8H	24.11	24.95	24.57	25.39	25.85	23.73	24.56	24.19	25.00	25.47
	12H	24.20	24.95	24.68	25.42	25.89	23.81	24.56	24.29	25.03	25.50
8H	4H	23.76	24.60	24.22	25.04	25.51	23.45	24.28	23.91	24.73	25.19
	6H	24.35	25.05	24.85	25.53	26.01	24.01	24.70	24.50	25.19	25.67
	8H	24.55	25.17	25.06	25.68	26.16	24.19	24.81	24.70	25.32	25.80
	12H	24.69	25.24	25.19	25.73	26.29	24.32	24.87	24.82	25.36	25.92
12H	4H	23.78	24.53	24.26	25.00	25.47	23.48	24.22	23.96	24.70	25.17
	6H	24.38	25.01	24.89	25.51	26.00	24.05	24.68	24.56	25.18	25.67
	8H	24.63	25.18	25.14	25.67	26.23	24.28	24.83	24.79	25.32	25.88