

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: P1439843

Luminaire Tested: S123DR-S865D840-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439843
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-S865D840-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

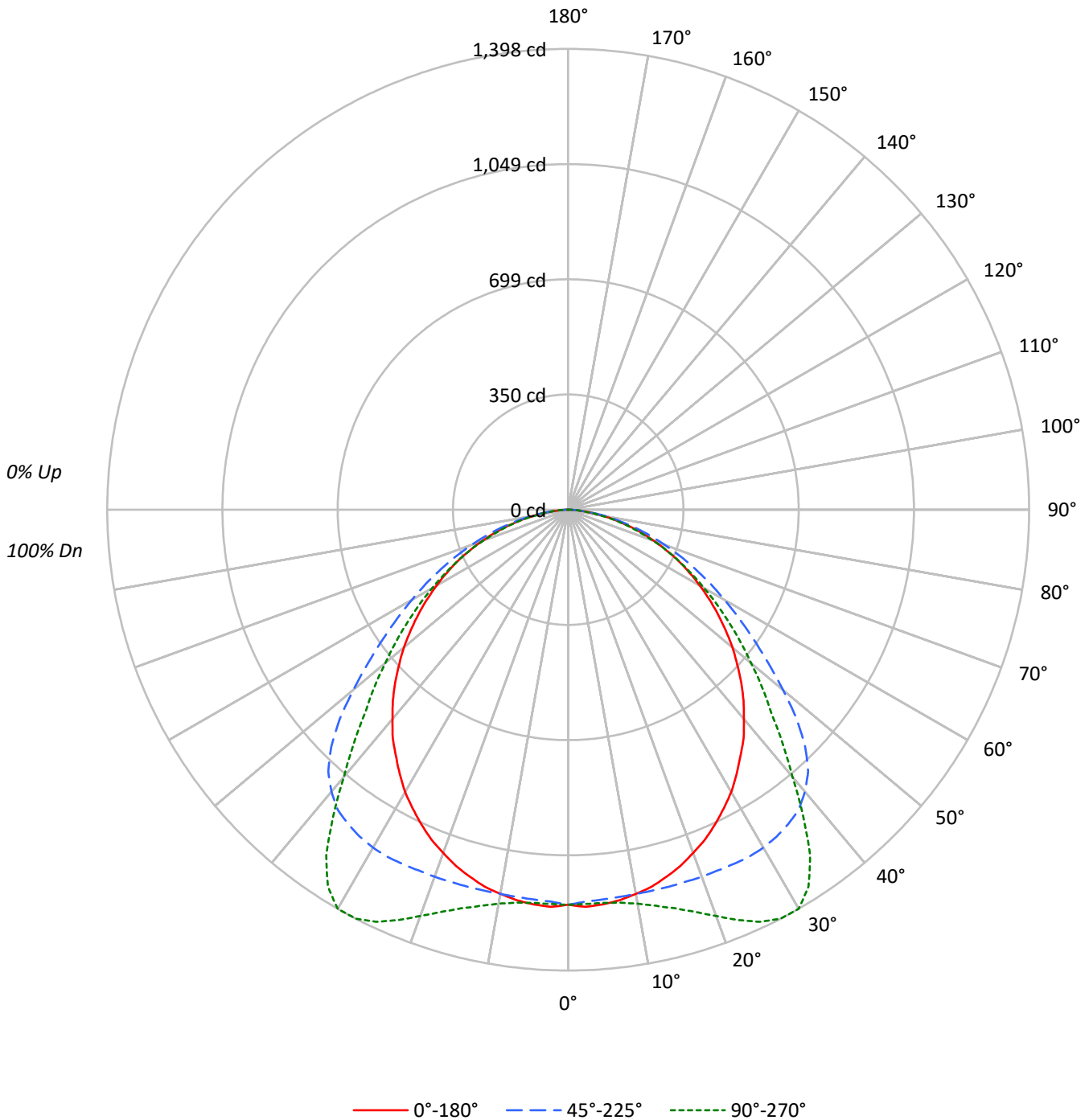
Lumens per Lamp: N/A
Luminaire Lumens: 3625.0 lumens
Efficiency: N/A
Efficacy: 104.5 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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°	14450	14450	14450
5°	14550	14369	14490
10°	14490	14490	14855
15°	14386	14773	15625
20°	14216	15202	16824
25°	14014	15778	18350
30°	13768	16478	19462
35°	13408	17129	18826
40°	13050	17575	16658
45°	12658	17328	14835
50°	12205	15947	13576
55°	11670	14432	12479
60°	11118	13209	11475
65°	10572	12093	10607
70°	9786	10966	9613
75°	8832	9759	8604
80°	7401	8172	7054
85°	5658	6004	5312

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 17328 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.1	3.1
10°-20°	339.1	9.4
20°-30°	555.8	15.3
30°-40°	703.0	19.4
40°-50°	686.9	18.9
50°-60°	564.3	15.6
60°-70°	398.0	11.0
70°-80°	212.1	5.9
80°-90°	51.7	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°	1009.0	27.8
0°-40°	1712.0	47.2
0°-60°	2963.1	81.7
0°-90°	3625.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3625.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1198	1198	1198	1198	1198	
5°	1202	1197	1187	1200	1197	114
15°	1153	1159	1184	1237	1252	325
25°	1054	1084	1186	1330	1379	485
35°	911	974	1164	1299	1279	570
45°	742	827	1016	917	870	572
55°	555	638	687	617	594	497
65°	371	424	424	387	372	366
75°	190	213	210	190	185	201
85°	41	45	43	40	38	50
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1198.5	1198.5	1198.5	1198.5	1198.5
2.5°	1205.9	1202.2	1189.8	1201.0	1197.3
5°	1202.2	1197.3	1187.3	1199.7	1197.3
7.5°	1194.8	1192.3	1184.9	1203.5	1202.2
10°	1183.6	1182.4	1183.6	1210.9	1213.4
12.5°	1171.2	1172.5	1183.6	1222.0	1230.7
15°	1152.6	1158.8	1183.6	1236.9	1251.8
17.5°	1132.8	1142.7	1183.6	1256.7	1279.1
20°	1108.0	1125.4	1184.9	1277.8	1311.3
22.5°	1083.2	1104.3	1184.9	1306.3	1347.2
25°	1053.5	1084.5	1186.1	1329.9	1379.4
27.5°	1021.3	1058.4	1187.3	1348.5	1398.0
30°	989.0	1033.7	1183.6	1355.9	1398.0
32.5°	950.6	1005.1	1176.2	1343.5	1355.9
35°	911.0	974.2	1163.8	1298.9	1279.1
37.5°	873.8	940.7	1147.7	1217.1	1170.0
40°	829.2	904.8	1116.7	1113.0	1058.4
42.5°	787.0	866.3	1077.0	1007.6	963.0
45°	742.4	826.7	1016.3	917.2	870.1
47.5°	695.3	783.3	939.5	831.6	798.2
50°	650.7	738.7	850.2	753.6	723.8
52.5°	602.3	691.6	764.7	684.1	658.1
55°	555.2	638.3	686.6	617.2	593.7
57.5°	508.2	586.2	614.7	554.0	535.4
60°	461.1	531.7	547.8	495.8	475.9
62.5°	415.2	480.9	485.8	440.0	422.6
65°	370.6	423.9	423.9	386.7	371.8
67.5°	323.5	369.3	366.9	332.2	323.5
70°	277.6	316.0	311.1	282.6	272.7
72.5°	234.2	262.8	259.0	236.7	225.6
75°	189.6	213.2	209.5	189.6	184.7
77.5°	147.5	163.6	159.9	146.2	142.5
80°	106.6	119.0	117.7	107.8	101.6
82.5°	71.9	78.1	76.8	70.6	66.9
85°	40.9	44.6	43.4	39.7	38.4
87.5°	16.1	18.6	19.8	18.6	17.4
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	20.92	22.52	21.28	22.84	23.15	20.64	22.25	21.01	22.56	22.88
	3H	22.49	23.93	22.86	24.26	24.62	22.16	23.61	22.54	23.93	24.29
	4H	23.04	24.40	23.44	24.75	25.12	22.69	24.05	23.09	24.40	24.78
	6H	23.40	24.66	23.81	25.03	25.42	23.05	24.31	23.46	24.68	25.07
	8H	23.50	24.70	23.93	25.09	25.49	23.15	24.35	23.57	24.74	25.14
	12H	23.56	24.71	23.99	25.09	25.52	23.20	24.35	23.63	24.73	25.16
4H	2H	21.56	22.92	21.95	23.26	23.64	21.34	22.70	21.74	23.05	23.43
	3H	23.36	24.50	23.77	24.90	25.30	23.06	24.19	23.47	24.59	24.99
	4H	24.05	25.07	24.48	25.49	25.93	23.70	24.72	24.13	25.13	25.57
	6H	24.53	25.42	24.99	25.87	26.32	24.16	25.05	24.61	25.49	25.95
	8H	24.67	25.50	25.13	25.94	26.41	24.28	25.12	24.74	25.56	26.02
	12H	24.75	25.50	25.23	25.98	26.45	24.36	25.11	24.84	25.59	26.06
8H	4H	24.32	25.15	24.78	25.59	26.06	24.00	24.84	24.46	25.28	25.75
	6H	24.91	25.60	25.40	26.09	26.56	24.56	25.26	25.06	25.74	26.22
	8H	25.10	25.72	25.61	26.23	26.72	24.74	25.36	25.25	25.87	26.36
	12H	25.24	25.79	25.75	26.28	26.84	24.87	25.42	25.38	25.91	26.47
12H	4H	24.33	25.08	24.81	25.56	26.03	24.03	24.78	24.51	25.25	25.72
	6H	24.94	25.56	25.45	26.07	26.55	24.61	25.23	25.12	25.74	26.22
	8H	25.18	25.73	25.69	26.22	26.78	24.84	25.39	25.34	25.88	26.44