

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: P1439799

Luminaire Tested: S123DR-H865D850-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439799
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-H865D850-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

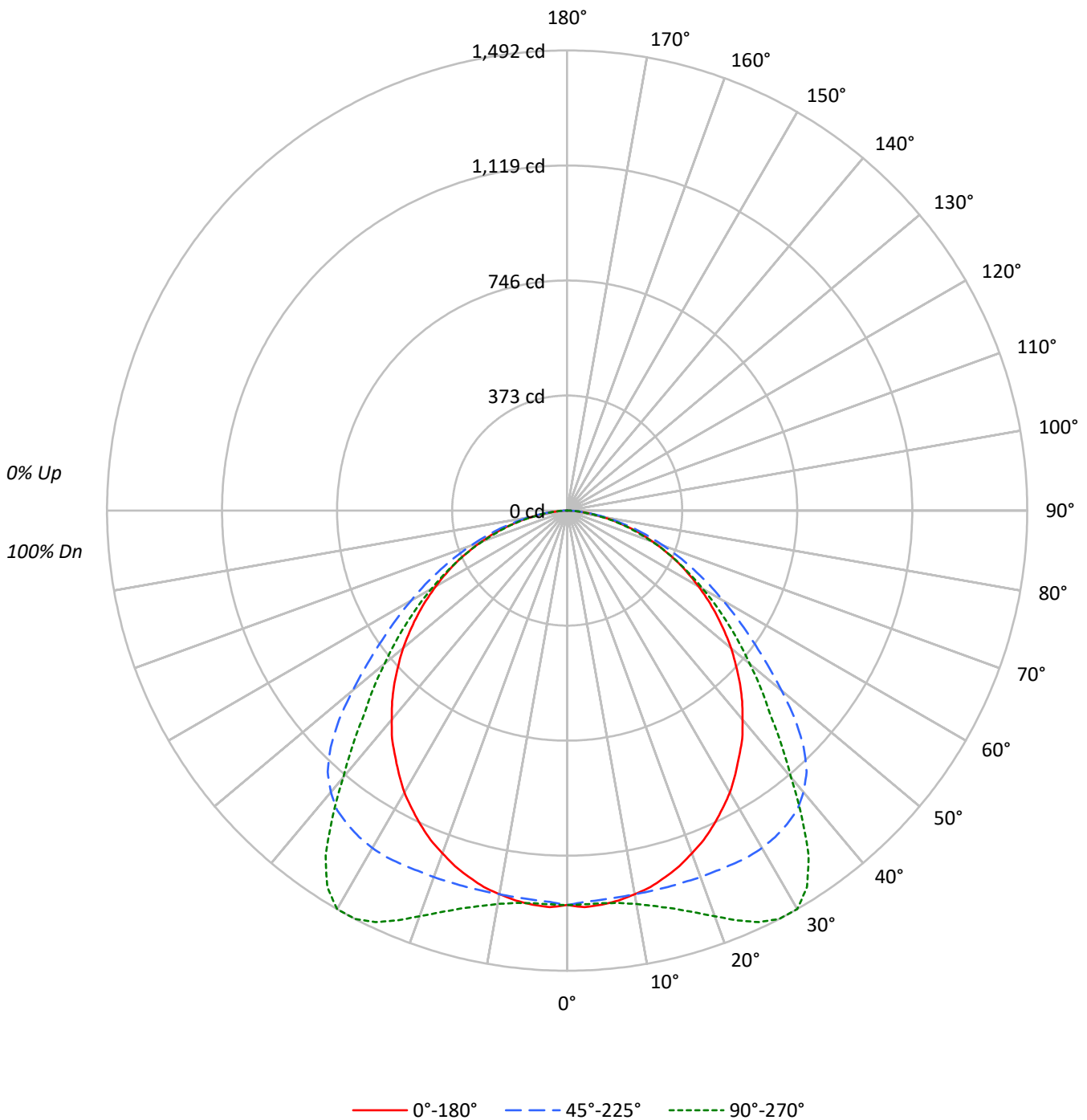
Lumens per Lamp: N/A
Luminaire Lumens: 3868.6 lumens
Efficiency: N/A
Efficacy: 125.2 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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

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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	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			
1	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85					85			
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71					71			
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60					60			
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52					52			
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45					45			
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39					39			
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34					34			
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31					31			
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28					28			
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25					25			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15421	15421	15421
5°	15527	15335	15463
10°	15465	15465	15853
15°	15354	15767	16674
20°	15172	16224	17955
25°	14956	16839	19584
30°	14694	17586	20771
35°	14309	18280	20090
40°	13927	18757	17778
45°	13509	18493	15831
50°	13024	17020	14489
55°	12456	15403	13318
60°	11864	14096	12247
65°	11283	12906	11320
70°	10445	11703	10258
75°	9428	10411	9181
80°	7901	8727	7533
85°	6031	6405	5672

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 18493 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.8	3.1
10°-20°	361.9	9.4
20°-30°	593.1	15.3
30°-40°	750.3	19.4
40°-50°	733.0	18.9
50°-60°	602.2	15.6
60°-70°	424.8	11.0
70°-80°	226.4	5.9
80°-90°	55.2	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°	1076.8	27.8
0°-40°	1827.1	47.2
0°-60°	3162.3	81.7
0°-90°	3868.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3868.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1279	1279	1279	1279	1279	
5°	1283	1278	1267	1280	1278	122
15°	1230	1237	1263	1320	1336	347
25°	1124	1157	1266	1419	1472	518
35°	972	1040	1242	1386	1365	609
45°	792	882	1085	979	928	611
55°	593	681	733	659	634	530
65°	396	452	452	413	397	390
75°	202	228	224	202	197	215
85°	44	48	46	42	41	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1279.1	1279.1	1279.1	1279.1	1279.1
2.5°	1287.0	1283.0	1269.8	1281.7	1277.7
5°	1283.0	1277.7	1267.1	1280.4	1277.7
7.5°	1275.1	1272.4	1264.5	1284.3	1283.0
10°	1263.2	1261.9	1263.2	1292.3	1294.9
12.5°	1250.0	1251.3	1263.2	1304.2	1313.4
15°	1230.1	1236.7	1263.2	1320.1	1335.9
17.5°	1208.9	1219.5	1263.2	1341.2	1365.0
20°	1182.5	1201.0	1264.5	1363.7	1399.4
22.5°	1156.0	1178.5	1264.5	1394.1	1437.8
25°	1124.3	1157.4	1265.8	1419.3	1472.2
27.5°	1089.9	1129.6	1267.1	1439.1	1492.0
30°	1055.5	1103.1	1263.2	1447.0	1492.0
32.5°	1014.5	1072.7	1255.2	1433.8	1447.0
35°	972.2	1039.6	1242.0	1386.2	1365.0
37.5°	932.5	1003.9	1224.8	1298.9	1248.6
40°	884.9	965.6	1191.8	1187.8	1129.6
42.5°	839.9	924.6	1149.4	1075.4	1027.7
45°	792.3	882.2	1084.6	978.8	928.5
47.5°	742.0	835.9	1002.6	887.5	851.8
50°	694.4	788.3	907.4	804.2	772.5
52.5°	642.8	738.1	816.1	730.1	702.4
55°	592.6	681.2	732.8	658.7	633.6
57.5°	542.3	625.6	656.1	591.2	571.4
60°	492.0	567.4	584.6	529.1	507.9
62.5°	443.1	513.2	518.5	469.6	451.0
65°	395.5	452.4	452.4	412.7	396.8
67.5°	345.2	394.2	391.5	354.5	345.2
70°	296.3	337.3	332.0	301.6	291.0
72.5°	250.0	280.4	276.4	252.6	240.7
75°	202.4	227.5	223.5	202.4	197.1
77.5°	157.4	174.6	170.6	156.1	152.1
80°	113.8	127.0	125.7	115.1	108.5
82.5°	76.7	83.3	82.0	75.4	71.4
85°	43.6	47.6	46.3	42.3	41.0
87.5°	17.2	19.8	21.2	19.8	18.5
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	21.14	22.75	21.51	23.06	23.38	20.87	22.47	21.23	22.79	23.10
	3H	22.71	24.16	23.09	24.49	24.85	22.38	23.83	22.76	24.16	24.52
	4H	23.26	24.62	23.66	24.97	25.35	22.92	24.28	23.32	24.63	25.00
	6H	23.63	24.89	24.04	25.25	25.64	23.28	24.54	23.69	24.90	25.29
	8H	23.73	24.93	24.15	25.32	25.72	23.37	24.57	23.80	24.96	25.36
	12H	23.78	24.93	24.21	25.31	25.74	23.42	24.57	23.85	24.96	25.38
4H	2H	21.78	23.14	22.18	23.49	23.87	21.57	22.93	21.97	23.28	23.65
	3H	23.59	24.72	24.00	25.12	25.52	23.28	24.42	23.69	24.82	25.22
	4H	24.28	25.30	24.71	25.71	26.15	23.92	24.95	24.35	25.36	25.80
	6H	24.76	25.65	25.21	26.09	26.55	24.38	25.27	24.84	25.72	26.17
	8H	24.89	25.73	25.35	26.17	26.63	24.51	25.34	24.97	25.79	26.25
	12H	24.98	25.73	25.46	26.20	26.67	24.59	25.34	25.07	25.81	26.28
8H	4H	24.54	25.38	25.00	25.82	26.29	24.23	25.06	24.69	25.51	25.97
	6H	25.13	25.83	25.63	26.31	26.79	24.79	25.48	25.28	25.97	26.45
	8H	25.33	25.95	25.84	26.46	26.94	24.97	25.59	25.48	26.10	26.58
	12H	25.47	26.02	25.97	26.51	27.07	25.10	25.65	25.61	26.14	26.70
12H	4H	24.56	25.31	25.04	25.78	26.25	24.26	25.00	24.74	25.48	25.95
	6H	25.16	25.79	25.68	26.29	26.78	24.83	25.46	25.34	25.96	26.45
	8H	25.41	25.96	25.92	26.45	27.01	25.06	25.61	25.57	26.10	26.67