

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: P1439841

Luminaire Tested: S123DR-S865D830-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439841
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-S865D830-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

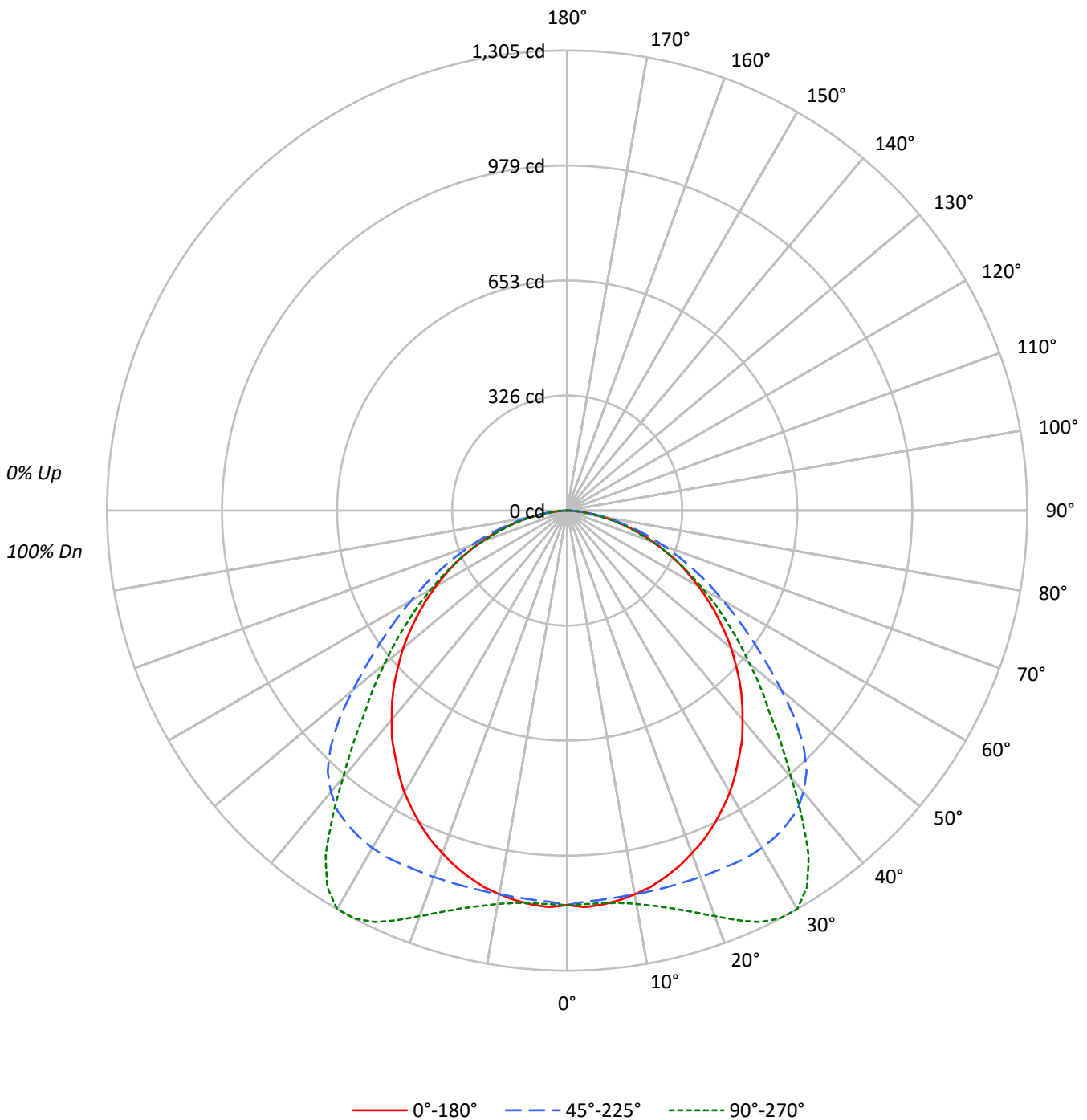
Lumens per Lamp: N/A
Luminaire Lumens: 3383.3 lumens
Efficiency: N/A
Efficacy: 97.5 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 34.7
Input Voltage (V): 120
Input Current (A_{in}): 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	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°	13486	13486	13486
5°	13580	13412	13523
10°	13524	13524	13865
15°	13428	13789	14582
20°	13269	14189	15703
25°	13081	14726	17127
30°	12851	15379	18165
35°	12513	15987	17571
40°	12180	16403	15548
45°	11814	16174	13847
50°	11391	14883	12672
55°	10892	13472	11647
60°	10376	12329	10711
65°	9868	11286	9899
70°	9133	10233	8971
75°	8245	9107	8031
80°	6908	7630	6589
85°	5284	5602	4966

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 16174 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.5	3.1
10°-20°	316.5	9.4
20°-30°	518.7	15.3
30°-40°	656.2	19.4
40°-50°	641.1	18.9
50°-60°	526.6	15.6
60°-70°	371.5	11.0
70°-80°	198.0	5.9
80°-90°	48.3	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°	941.7	27.8
0°-40°	1597.9	47.2
0°-60°	2765.6	81.7
0°-90°	3383.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3383.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1119	1119	1119	1119	1119	
5°	1122	1117	1108	1120	1117	107
15°	1076	1082	1105	1154	1168	303
25°	983	1012	1107	1241	1288	453
35°	850	909	1086	1212	1194	532
45°	693	772	949	856	812	534
55°	518	596	641	576	554	464
65°	346	396	396	361	347	341
75°	177	199	196	177	172	188
85°	38	42	40	37	36	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1118.6	1118.6	1118.6	1118.6	1118.6
2.5°	1125.5	1122.1	1110.5	1120.9	1117.4
5°	1122.1	1117.4	1108.2	1119.8	1117.4
7.5°	1115.1	1112.8	1105.9	1123.2	1122.1
10°	1104.7	1103.6	1104.7	1130.2	1132.5
12.5°	1093.1	1094.3	1104.7	1140.6	1148.7
15°	1075.8	1081.6	1104.7	1154.5	1168.3
17.5°	1057.3	1066.5	1104.7	1173.0	1193.8
20°	1034.2	1050.3	1105.9	1192.6	1223.9
22.5°	1011.0	1030.7	1105.9	1219.2	1257.4
25°	983.3	1012.2	1107.0	1241.2	1287.5
27.5°	953.2	987.9	1108.2	1258.6	1304.8
30°	923.1	964.7	1104.7	1265.5	1304.8
32.5°	887.2	938.1	1097.8	1253.9	1265.5
35°	850.2	909.2	1086.2	1212.3	1193.8
37.5°	815.5	878.0	1071.2	1135.9	1092.0
40°	773.9	844.4	1042.2	1038.8	987.9
42.5°	734.5	808.6	1005.2	940.5	898.8
45°	692.9	771.6	948.6	856.0	812.1
47.5°	648.9	731.1	876.8	776.2	745.0
50°	607.3	689.4	793.5	703.3	675.6
52.5°	562.2	645.5	713.7	638.5	614.2
55°	518.2	595.7	640.9	576.1	554.1
57.5°	474.3	547.2	573.8	517.1	499.7
60°	430.3	496.3	511.3	462.7	444.2
62.5°	387.5	448.8	453.5	410.7	394.5
65°	345.9	395.6	395.6	360.9	347.0
67.5°	301.9	344.7	342.4	310.0	301.9
70°	259.1	295.0	290.3	263.7	254.5
72.5°	218.6	245.2	241.8	220.9	210.5
75°	177.0	199.0	195.5	177.0	172.4
77.5°	137.7	152.7	149.2	136.5	133.0
80°	99.5	111.0	109.9	100.6	94.9
82.5°	67.1	72.9	71.7	65.9	62.5
85°	38.2	41.6	40.5	37.0	35.9
87.5°	15.0	17.4	18.5	17.4	16.2
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	20.68	22.28	21.04	22.60	22.91	20.40	22.01	20.77	22.32	22.64
	3H	22.25	23.69	22.62	24.02	24.38	21.92	23.37	22.30	23.69	24.05
	4H	22.80	24.16	23.20	24.51	24.88	22.45	23.81	22.85	24.16	24.54
	6H	23.16	24.42	23.57	24.79	25.18	22.81	24.07	23.22	24.44	24.83
	8H	23.26	24.46	23.69	24.85	25.25	22.91	24.11	23.33	24.50	24.90
	12H	23.32	24.47	23.75	24.85	25.28	22.96	24.11	23.39	24.49	24.92
4H	2H	21.32	22.68	21.71	23.02	23.40	21.10	22.46	21.50	22.81	23.19
	3H	23.12	24.26	23.53	24.66	25.06	22.82	23.95	23.23	24.35	24.75
	4H	23.81	24.84	24.24	25.25	25.69	23.46	24.48	23.89	24.89	25.33
	6H	24.29	25.19	24.75	25.63	26.08	23.92	24.81	24.37	25.25	25.71
	8H	24.43	25.26	24.89	25.70	26.17	24.04	24.88	24.50	25.32	25.79
	12H	24.51	25.26	24.99	25.74	26.21	24.12	24.87	24.60	25.35	25.82
8H	4H	24.08	24.91	24.54	25.35	25.82	23.76	24.60	24.22	25.04	25.51
	6H	24.67	25.36	25.16	25.85	26.32	24.32	25.02	24.82	25.50	25.98
	8H	24.86	25.48	25.37	25.99	26.48	24.50	25.12	25.01	25.63	26.12
	12H	25.00	25.55	25.51	26.04	26.60	24.63	25.18	25.14	25.67	26.23
12H	4H	24.09	24.84	24.57	25.32	25.79	23.79	24.54	24.27	25.01	25.48
	6H	24.70	25.32	25.21	25.83	26.32	24.37	24.99	24.88	25.50	25.98
	8H	24.94	25.49	25.45	25.98	26.55	24.60	25.15	25.10	25.64	26.20