

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: P1439844

Luminaire Tested: S123DR-S865D850-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439844  
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-S865D850-X4F0-XX-UDD-FLB-W  
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
CORE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

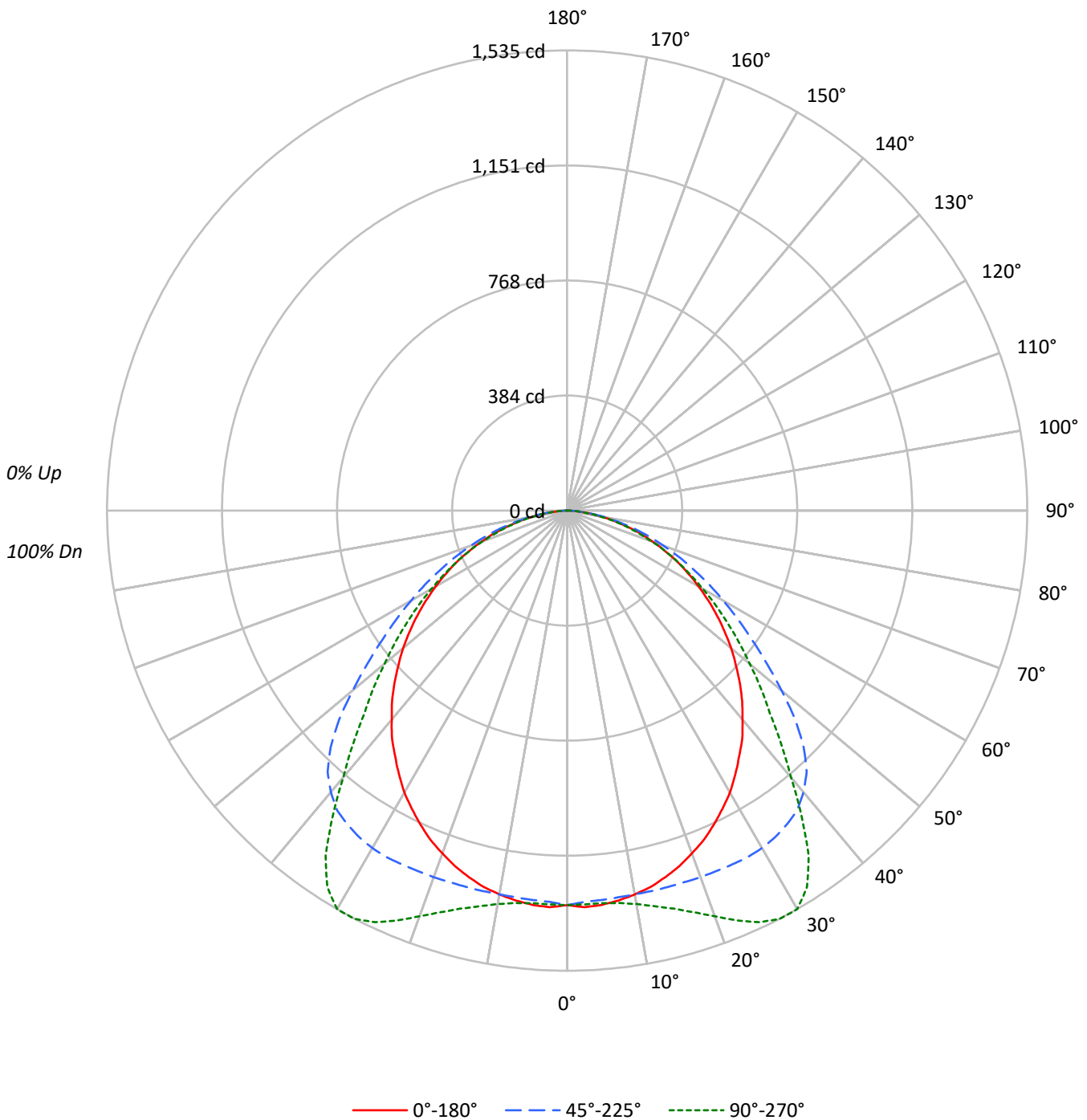
Lumens per Lamp: N/A  
Luminaire Lumens: 3980.8 lumens  
Efficiency: N/A  
Efficacy: 114.7 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct

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	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°	15867	15867	15867
5°	15978	15780	15912
10°	15913	15913	16313
15°	15799	16224	17159
20°	15612	16695	18475
25°	15390	17327	20152
30°	15120	18095	21374
35°	14724	18810	20673
40°	14330	19300	18293
45°	13901	19030	16292
50°	13403	17513	14909
55°	12818	15849	13703
60°	12208	14506	12601
65°	11611	13280	11648
70°	10748	12042	10554
75°	9698	10714	9447
80°	8130	8977	7748
85°	6211	6585	5838

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 19030 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.3	3.1
10°-20°	372.4	9.4
20°-30°	610.3	15.3
30°-40°	772.0	19.4
40°-50°	754.3	18.9
50°-60°	619.7	15.6
60°-70°	437.1	11.0
70°-80°	233.0	5.9
80°-90°	56.8	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°	1108.0	27.8
0°-40°	1880.1	47.2
0°-60°	3254.0	81.7
0°-90°	3980.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3980.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1316	1316	1316	1316	1316	
5°	1320	1315	1304	1318	1315	125
15°	1266	1273	1300	1358	1375	357
25°	1157	1191	1302	1460	1515	533
35°	1000	1070	1278	1426	1405	626
45°	815	908	1116	1007	956	628
55°	610	701	754	678	652	545
65°	407	466	466	425	408	402
75°	208	234	230	208	203	221
85°	45	49	48	44	42	54
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1316.1	1316.1	1316.1	1316.1	1316.1
2.5°	1324.3	1320.2	1306.6	1318.9	1314.8
5°	1320.2	1314.8	1303.9	1317.5	1314.8
7.5°	1312.1	1309.3	1301.2	1321.6	1320.2
10°	1299.8	1298.5	1299.8	1329.8	1332.5
12.5°	1286.2	1287.6	1299.8	1342.0	1351.5
15°	1265.8	1272.6	1299.8	1358.3	1374.7
17.5°	1244.0	1254.9	1299.8	1380.1	1404.6
20°	1216.8	1235.8	1301.2	1403.3	1440.0
22.5°	1189.6	1212.7	1301.2	1434.6	1479.5
25°	1156.9	1190.9	1302.5	1460.4	1514.9
27.5°	1121.5	1162.3	1303.9	1480.8	1535.3
30°	1086.1	1135.1	1299.8	1489.0	1535.3
32.5°	1043.9	1103.8	1291.6	1475.4	1489.0
35°	1000.4	1069.8	1278.0	1426.4	1404.6
37.5°	959.5	1033.0	1260.3	1336.6	1284.8
40°	910.5	993.6	1226.3	1222.2	1162.3
42.5°	864.3	951.4	1182.8	1106.5	1057.5
45°	815.3	907.8	1116.1	1007.2	955.5
47.5°	763.6	860.2	1031.7	913.3	876.5
50°	714.6	811.2	933.7	827.5	794.9
52.5°	661.5	759.5	839.8	751.3	722.7
55°	609.8	700.9	754.0	677.8	651.9
57.5°	558.0	643.8	675.1	608.4	588.0
60°	506.3	583.9	601.6	544.4	522.6
62.5°	456.0	528.1	533.5	483.2	464.1
65°	407.0	465.5	465.5	424.7	408.3
67.5°	355.2	405.6	402.9	364.8	355.2
70°	304.9	347.1	341.6	310.3	299.4
72.5°	257.2	288.5	284.5	260.0	247.7
75°	208.2	234.1	230.0	208.2	202.8
77.5°	162.0	179.7	175.6	160.6	156.5
80°	117.1	130.7	129.3	118.4	111.6
82.5°	78.9	85.7	84.4	77.6	73.5
85°	44.9	49.0	47.6	43.6	42.2
87.5°	17.7	20.4	21.8	20.4	19.1
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	21.24	22.85	21.61	23.16	23.48	20.97	22.57	21.33	22.89	23.20
	3H	22.81	24.26	23.19	24.59	24.95	22.48	23.93	22.86	24.26	24.62
	4H	23.36	24.72	23.76	25.07	25.45	23.02	24.38	23.42	24.73	25.10
	6H	23.73	24.99	24.14	25.35	25.74	23.38	24.64	23.79	25.00	25.39
	8H	23.83	25.03	24.25	25.42	25.82	23.47	24.67	23.90	25.06	25.46
	12H	23.88	25.03	24.31	25.41	25.84	23.52	24.67	23.95	25.06	25.48
4H	2H	21.88	23.24	22.28	23.59	23.97	21.67	23.03	22.07	23.38	23.75
	3H	23.69	24.82	24.10	25.22	25.62	23.38	24.52	23.79	24.92	25.32
	4H	24.38	25.40	24.81	25.81	26.25	24.02	25.04	24.45	25.46	25.90
	6H	24.86	25.75	25.31	26.19	26.65	24.48	25.37	24.94	25.81	26.27
	8H	24.99	25.83	25.45	26.27	26.73	24.61	25.44	25.07	25.88	26.35
	12H	25.08	25.82	25.56	26.30	26.77	24.69	25.44	25.17	25.91	26.38
8H	4H	24.64	25.48	25.10	25.92	26.38	24.33	25.16	24.79	25.61	26.07
	6H	25.23	25.93	25.73	26.41	26.89	24.89	25.58	25.38	26.07	26.55
	8H	25.43	26.05	25.94	26.55	27.04	25.07	25.69	25.58	26.20	26.68
	12H	25.57	26.12	26.07	26.61	27.17	25.20	25.75	25.70	26.24	26.80
12H	4H	24.66	25.41	25.14	25.88	26.35	24.35	25.10	24.84	25.58	26.05
	6H	25.26	25.89	25.77	26.39	26.88	24.93	25.56	25.44	26.06	26.55
	8H	25.51	26.06	26.01	26.55	27.11	25.16	25.71	25.67	26.20	26.76