

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: P1439842

Luminaire Tested: S123DR-S865D835-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439842  
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-S865D835-X4F0-XX-UDD-FLB-W  
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
CORE LIGHT ENGINE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

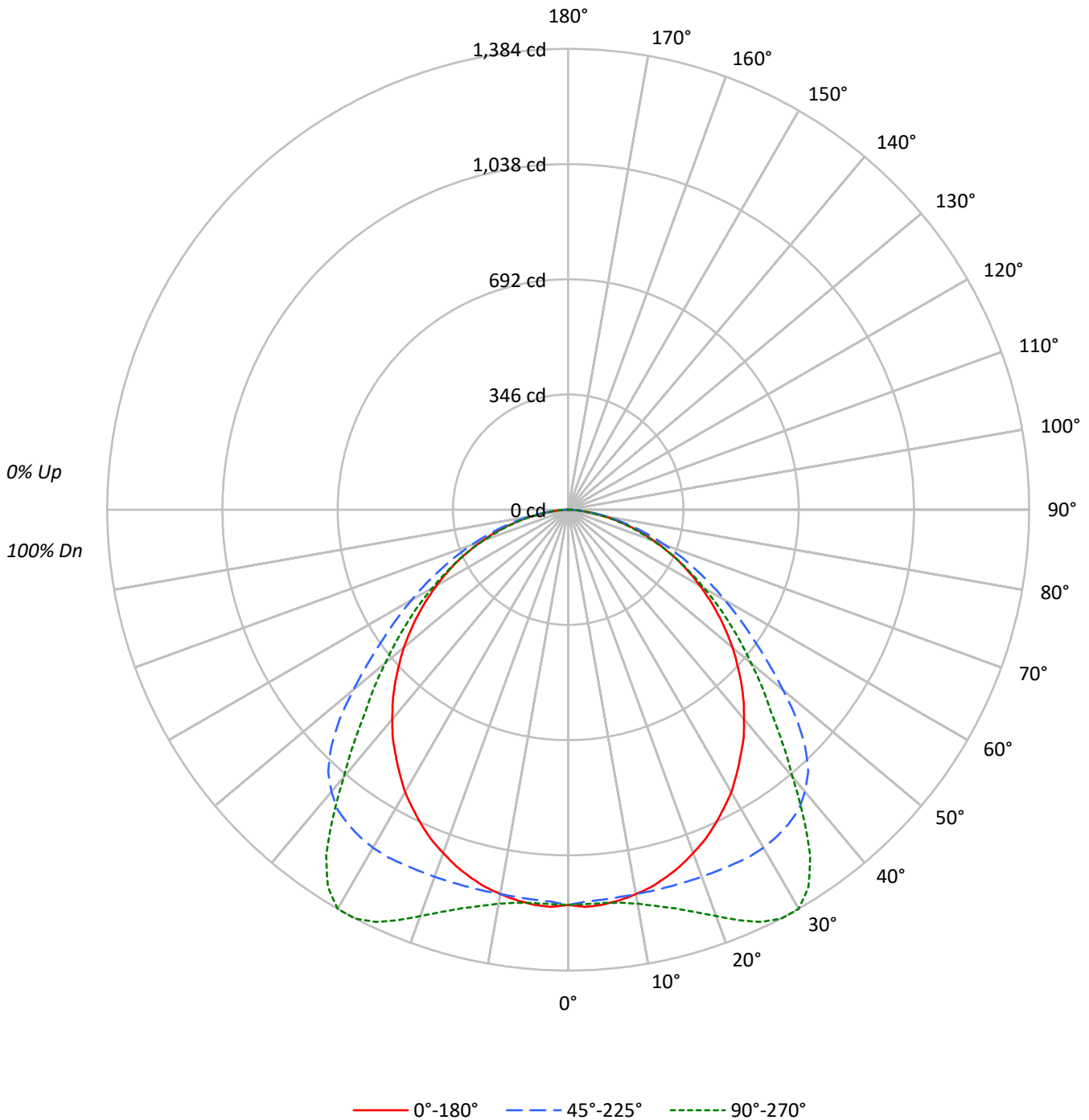
Lumens per Lamp: N/A  
Luminaire Lumens: 3589.6 lumens  
Efficiency: N/A  
Efficacy: 103.4 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct

Input Watts (W): 34.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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°	14309	14309	14309
5°	14408	14229	14349
10°	14349	14349	14709
15°	14247	14630	15472
20°	14077	15054	16660
25°	13877	15624	18172
30°	13635	16317	19273
35°	13277	16961	18642
40°	12923	17404	16496
45°	12534	17159	14691
50°	12085	15791	13443
55°	11557	14291	12357
60°	11010	13081	11364
65°	10470	11973	10504
70°	9690	10857	9518
75°	8748	9661	8520
80°	7325	8096	6985
85°	5602	5948	5257

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 17159 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	113.0	3.1
10°-20°	335.8	9.4
20°-30°	550.3	15.3
30°-40°	696.2	19.4
40°-50°	680.1	18.9
50°-60°	558.8	15.6
60°-70°	394.1	11.0
70°-80°	210.1	5.9
80°-90°	51.2	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°	999.1	27.8
0°-40°	1695.3	47.2
0°-60°	2934.2	81.7
0°-90°	3589.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3589.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1187	1187	1187	1187	1187	
5°	1190	1186	1176	1188	1186	113
15°	1141	1148	1172	1225	1240	322
25°	1043	1074	1174	1317	1366	480
35°	902	965	1152	1286	1267	565
45°	735	819	1006	908	862	566
55°	550	632	680	611	588	492
65°	367	420	420	383	368	362
75°	188	211	207	188	183	199
85°	40	44	43	39	38	49
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1186.8	1186.8	1186.8	1186.8	1186.8
2.5°	1194.1	1190.5	1178.2	1189.2	1185.6
5°	1190.5	1185.6	1175.7	1188.0	1185.6
7.5°	1183.1	1180.6	1173.3	1191.7	1190.5
10°	1172.1	1170.8	1172.1	1199.1	1201.5
12.5°	1159.8	1161.0	1172.1	1210.1	1218.7
15°	1141.4	1147.5	1172.1	1224.8	1239.6
17.5°	1121.7	1131.6	1172.1	1244.5	1266.6
20°	1097.2	1114.4	1173.3	1265.3	1298.5
22.5°	1072.6	1093.5	1173.3	1293.6	1334.1
25°	1043.2	1073.9	1174.5	1316.9	1366.0
27.5°	1011.3	1048.1	1175.7	1335.3	1384.4
30°	979.4	1023.6	1172.1	1342.7	1384.4
32.5°	941.3	995.3	1164.7	1330.4	1342.7
35°	902.1	964.6	1152.4	1286.2	1266.6
37.5°	865.2	931.5	1136.5	1205.2	1158.6
40°	821.1	895.9	1105.8	1102.1	1048.1
42.5°	779.3	857.9	1066.5	997.8	953.6
45°	735.1	818.6	1006.4	908.2	861.6
47.5°	688.5	775.6	930.3	823.5	790.4
50°	644.3	731.5	841.9	746.2	716.7
52.5°	596.5	684.8	757.2	677.5	651.7
55°	549.8	632.1	679.9	611.2	587.9
57.5°	503.2	580.5	608.7	548.6	530.2
60°	456.6	526.5	542.5	490.9	471.3
62.5°	411.1	476.2	481.1	435.7	418.5
65°	367.0	419.7	419.7	382.9	368.2
67.5°	320.3	365.7	363.3	328.9	320.3
70°	274.9	313.0	308.0	279.8	270.0
72.5°	232.0	260.2	256.5	234.4	223.4
75°	187.8	211.1	207.4	187.8	182.9
77.5°	146.0	162.0	158.3	144.8	141.1
80°	105.5	117.8	116.6	106.8	100.6
82.5°	71.2	77.3	76.1	70.0	66.3
85°	40.5	44.2	43.0	39.3	38.0
87.5°	16.0	18.4	19.6	18.4	17.2
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	20.88	22.49	21.25	22.80	23.12	20.61	22.21	20.97	22.53	22.84
	3H	22.45	23.90	22.83	24.23	24.59	22.12	23.57	22.50	23.90	24.26
	4H	23.00	24.36	23.40	24.71	25.09	22.66	24.02	23.06	24.37	24.74
	6H	23.37	24.63	23.78	24.99	25.38	23.02	24.28	23.43	24.64	25.03
	8H	23.47	24.67	23.89	25.06	25.46	23.11	24.31	23.54	24.70	25.10
	12H	23.52	24.67	23.95	25.05	25.48	23.16	24.31	23.59	24.70	25.12
4H	2H	21.52	22.88	21.92	23.23	23.61	21.31	22.67	21.71	23.02	23.39
	3H	23.33	24.46	23.74	24.86	25.26	23.02	24.16	23.43	24.56	24.96
	4H	24.02	25.04	24.45	25.45	25.89	23.66	24.69	24.09	25.10	25.54
	6H	24.50	25.39	24.95	25.83	26.29	24.12	25.01	24.58	25.45	25.91
	8H	24.63	25.47	25.09	25.91	26.37	24.25	25.08	24.71	25.53	25.99
	12H	24.72	25.47	25.20	25.94	26.41	24.33	25.08	24.81	25.55	26.02
8H	4H	24.28	25.12	24.74	25.56	26.02	23.97	24.80	24.43	25.25	25.71
	6H	24.87	25.57	25.37	26.05	26.53	24.53	25.22	25.02	25.71	26.19
	8H	25.07	25.69	25.58	26.20	26.68	24.71	25.33	25.22	25.84	26.32
	12H	25.21	25.76	25.71	26.25	26.81	24.84	25.39	25.35	25.88	26.44
12H	4H	24.30	25.05	24.78	25.52	25.99	24.00	24.74	24.48	25.22	25.69
	6H	24.90	25.53	25.41	26.03	26.52	24.57	25.20	25.08	25.70	26.19
	8H	25.15	25.70	25.66	26.19	26.75	24.80	25.35	25.31	25.84	26.40