

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: P242258

Luminaire Tested: S122DRP-S865D830-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242258  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-10)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DRP-S865D830-X4F0-XX-UDD-F-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

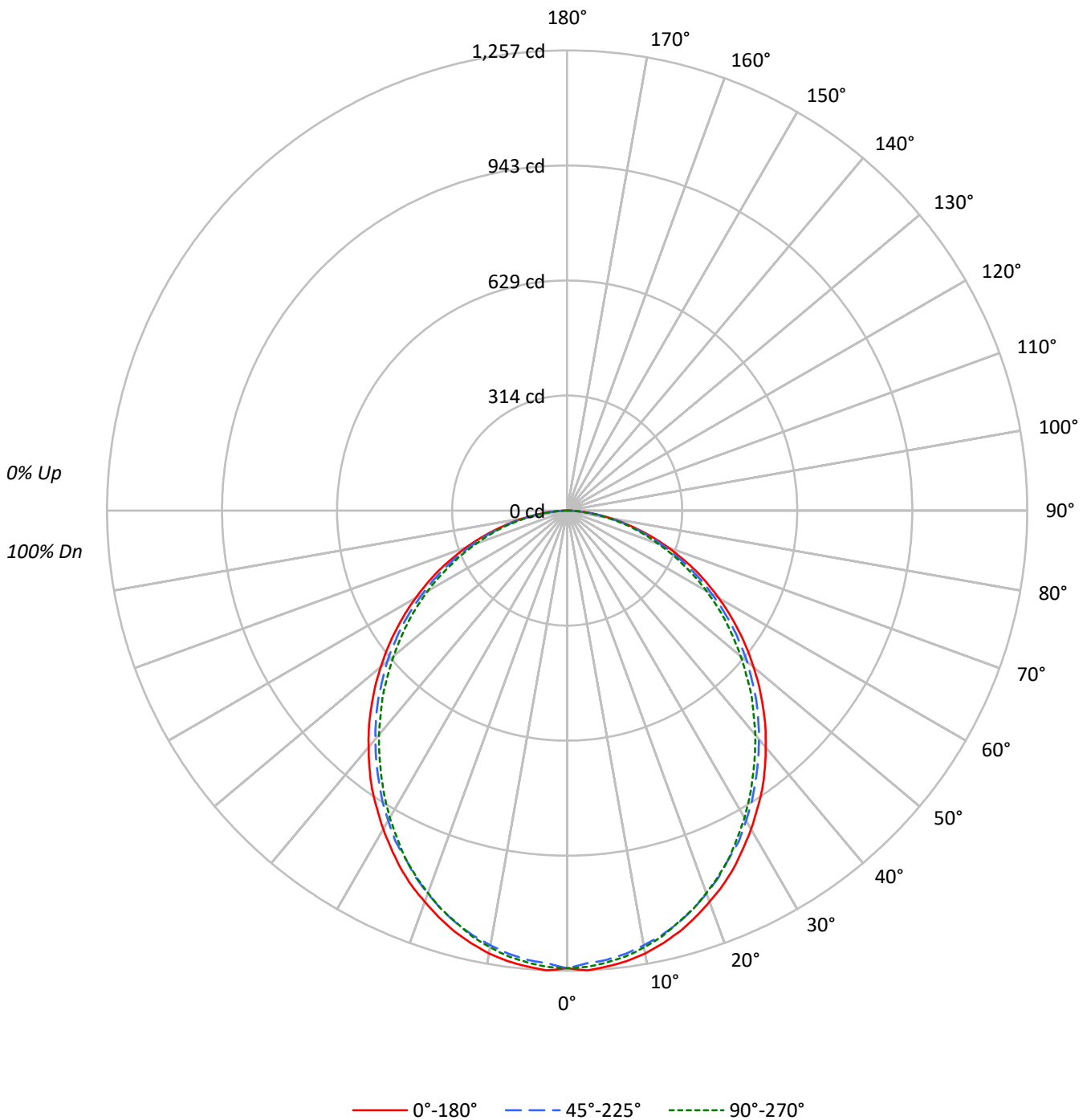
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3180.3 lumens  
Efficiency: N/A  
Efficacy: 91.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular (W 0.15' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 34.8  
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																		
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	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	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84																												
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	71																												
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	60																												
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51																												
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45																												
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39																												
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	35																												
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	31																												
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28																												
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	26																												

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	23812	23812	23812
5°	23902	23556	23694
10°	23759	23318	23434
15°	23466	23015	22991
20°	23049	22561	22536
25°	22635	22003	22003
30°	22102	21493	21308
35°	21604	20879	20572
40°	20981	20263	19875
45°	20365	19654	19169
50°	19697	19021	18343
55°	18999	18281	17604
60°	18225	17402	16758
65°	17388	16523	15766
70°	16334	15466	14725
75°	14859	14241	13887
80°	13185	12790	12132
85°	10774	10250	9201

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 20365 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	117.6	3.7
10°-20°	331.0	10.4
20°-30°	486.5	15.3
30°-40°	565.0	17.8
40°-50°	564.3	17.7
50°-60°	492.1	15.5
60°-70°	363.7	11.4
70°-80°	205.8	6.5
80°-90°	54.3	1.7
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°	935.1	29.4
0°-40°	1500.2	47.2
0°-60°	2556.5	80.4
0°-90°	3180.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3180.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1250	1250	1250	1250	1250	
5°	1250	1245	1232	1242	1239	119
15°	1190	1183	1167	1172	1166	335
25°	1077	1067	1047	1049	1047	496
35°	929	917	898	891	885	580
45°	756	748	730	716	712	583
55°	572	565	550	536	530	512
65°	386	379	367	356	350	382
75°	202	200	194	186	189	216
85°	49	48	47	43	42	58
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1250.1	1250.1	1250.1	1250.1	1250.1
2.5°	1257.3	1251.3	1238.0	1250.1	1247.7
5°	1250.1	1245.2	1232.0	1241.6	1239.2
7.5°	1241.6	1234.4	1221.2	1230.8	1228.4
10°	1228.4	1220.0	1205.6	1215.2	1211.6
12.5°	1210.4	1203.2	1188.8	1194.8	1192.4
15°	1190.0	1182.7	1167.1	1171.9	1165.9
17.5°	1164.7	1157.5	1141.9	1147.9	1141.9
20°	1137.1	1129.9	1113.0	1116.6	1111.8
22.5°	1109.4	1098.6	1083.0	1083.0	1080.6
25°	1077.0	1067.4	1046.9	1049.3	1046.9
27.5°	1040.9	1032.5	1016.9	1013.3	1007.3
30°	1004.9	995.2	977.2	973.6	968.8
32.5°	966.4	959.2	939.9	932.7	927.9
35°	929.1	917.1	897.9	890.7	884.7
37.5°	887.1	876.2	857.0	848.6	842.6
40°	843.8	834.2	814.9	804.1	799.3
42.5°	801.7	792.1	772.9	760.9	753.6
45°	756.0	747.6	729.6	716.4	711.6
47.5°	711.6	703.2	683.9	670.7	663.5
50°	664.7	658.7	641.9	625.0	619.0
52.5°	619.0	610.6	595.0	581.8	573.3
55°	572.1	564.9	550.5	536.1	530.1
57.5°	525.3	519.3	503.6	489.2	484.4
60°	478.4	473.6	456.8	443.5	439.9
62.5°	432.7	424.3	412.3	400.3	395.4
65°	385.8	378.6	366.6	355.8	349.8
67.5°	337.8	331.7	320.9	312.5	307.7
70°	293.3	288.5	277.7	269.2	264.4
72.5°	247.6	242.8	236.8	228.4	224.8
75°	201.9	199.5	193.5	186.3	188.7
77.5°	161.1	156.3	153.9	150.2	146.6
80°	120.2	119.0	116.6	113.0	110.6
82.5°	81.7	81.7	80.5	75.7	75.7
85°	49.3	48.1	46.9	43.3	42.1
87.5°	21.6	19.2	16.8	13.2	12.0
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	22.30	23.91	22.66	24.22	24.54	21.85	23.46	22.22	23.78	24.09
	3H	24.05	25.50	24.42	25.83	26.19	23.56	25.01	23.93	25.34	25.70
	4H	24.69	26.06	25.09	26.41	26.79	24.20	25.57	24.60	25.91	26.29
	6H	25.16	26.43	25.57	26.80	27.19	24.66	25.93	25.07	26.29	26.68
	8H	25.31	26.52	25.73	26.90	27.30	24.80	26.01	25.23	26.40	26.80
	12H	25.40	26.56	25.83	26.94	27.37	24.88	26.04	25.31	26.42	26.85
4H	2H	22.86	24.23	23.26	24.57	24.95	22.50	23.87	22.90	24.22	24.60
	3H	24.83	25.98	25.24	26.38	26.78	24.43	25.57	24.83	25.97	26.37
	4H	25.61	26.64	26.04	27.06	27.49	25.18	26.22	25.62	26.63	27.07
	6H	26.21	27.11	26.66	27.55	28.01	25.77	26.68	26.23	27.12	27.57
	8H	26.39	27.24	26.86	27.68	28.15	25.96	26.80	26.42	27.25	27.71
	12H	26.53	27.29	27.01	27.76	28.23	26.07	26.83	26.55	27.31	27.78
8H	4H	25.88	26.73	26.34	27.17	27.64	25.51	26.35	25.97	26.80	27.26
	6H	26.60	27.30	27.09	27.79	28.26	26.21	26.92	26.71	27.41	27.88
	8H	26.86	27.49	27.37	27.99	28.48	26.46	27.09	26.97	27.60	28.09
	12H	27.06	27.61	27.56	28.10	28.67	26.64	27.20	27.15	27.69	28.25
12H	4H	25.91	26.67	26.39	27.14	27.61	25.54	26.30	26.02	26.78	27.25
	6H	26.64	27.27	27.15	27.78	28.27	26.27	26.90	26.78	27.41	27.90
	8H	26.96	27.51	27.46	28.00	28.57	26.58	27.13	27.08	27.63	28.19