

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: P242370

Luminaire Tested: S122RDRP-S865D840-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242370  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-24)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122RDRP-S865D840-X4F0-XX-UDD-F-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

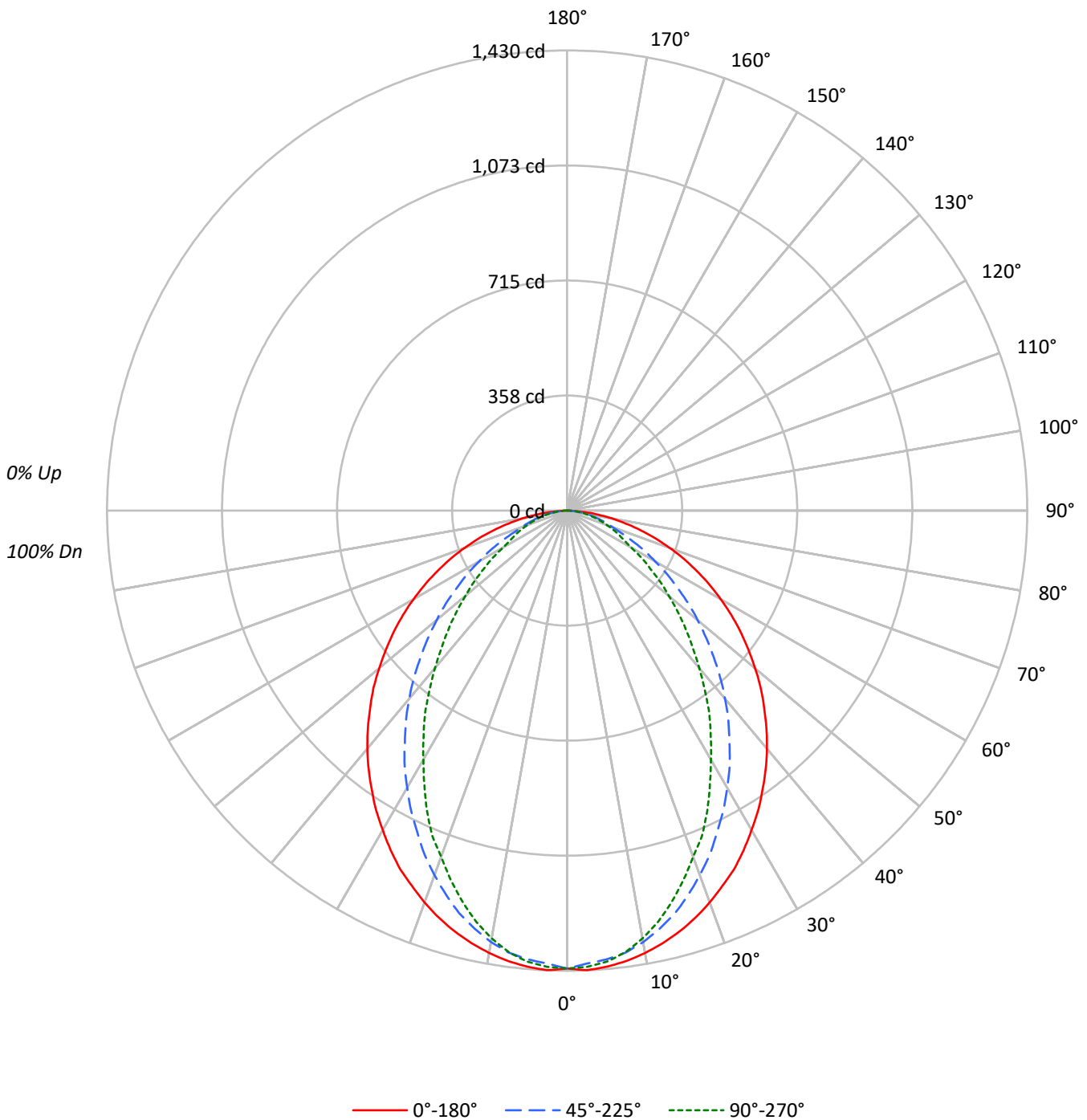
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2926.7 lumens  
Efficiency: N/A  
Efficacy: 84.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
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 (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	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	64
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49
6	74	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39
8	64	51	43	38	62	51	43	37	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34	44	38	34	44	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29

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

	0°	45°	90°
0°	27105	27105	27105
5°	27208	26767	26914
10°	27001	26328	26103
15°	26691	25549	24811
20°	26262	24434	23207
25°	25821	23169	21654
30°	25210	21867	19656
35°	24616	20453	17907
40°	24017	18989	15884
45°	23312	17345	14051
50°	22592	15685	12250
55°	21855	13898	10521
60°	20998	12019	8731
65°	20025	10100	7950
70°	18863	8320	7318
75°	17442	7580	6822
80°	15401	6779	6220
85°	12108	5354	5354

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 23312 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	133.4	4.6
10°-20°	366.1	12.5
20°-30°	514.0	17.6
30°-40°	560.3	19.1
40°-50°	515.0	17.6
50°-60°	404.4	13.8
60°-70°	263.3	9.0
70°-80°	135.5	4.6
80°-90°	34.6	1.2
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°	1013.5	34.6
0°-40°	1573.9	53.8
0°-60°	2493.3	85.2
0°-90°	2926.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2926.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1423	1423	1423	1423	1423	
5°	1423	1417	1400	1412	1408	135
15°	1354	1339	1296	1271	1258	381
25°	1229	1187	1102	1050	1030	565
35°	1059	993	880	798	770	663
45°	865	779	644	552	522	668
55°	658	558	418	341	317	588
65°	444	340	224	180	176	440
75°	237	147	103	94	93	251
85°	55	28	24	24	24	66
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1423.0	1423.0	1423.0	1423.0	1423.0
2.5°	1429.5	1423.0	1408.9	1421.8	1419.2
5°	1423.0	1416.6	1399.9	1411.5	1407.6
7.5°	1411.5	1403.7	1385.7	1390.8	1384.4
10°	1396.0	1387.0	1361.2	1357.4	1349.6
12.5°	1376.7	1365.1	1330.3	1322.6	1308.4
15°	1353.5	1339.3	1295.6	1271.1	1258.2
17.5°	1326.5	1305.9	1251.8	1223.4	1202.8
20°	1295.6	1269.8	1205.4	1173.2	1144.9
22.5°	1262.1	1232.4	1157.8	1114.0	1094.7
25°	1228.6	1187.4	1102.4	1049.6	1030.3
27.5°	1188.7	1144.9	1050.9	990.3	960.7
30°	1146.2	1097.2	994.2	928.5	893.7
32.5°	1105.0	1045.7	940.1	862.8	830.6
35°	1058.6	992.9	879.6	798.5	770.1
37.5°	1013.5	942.7	822.9	734.1	701.9
40°	965.9	888.6	763.7	672.2	638.8
42.5°	916.9	834.5	704.4	609.1	576.9
45°	865.4	779.1	643.9	552.5	521.6
47.5°	816.5	725.0	586.0	494.5	466.2
50°	762.4	671.0	529.3	440.4	413.4
52.5°	709.6	613.0	475.2	390.2	365.7
55°	658.1	557.6	418.5	341.3	316.8
57.5°	605.3	502.3	368.3	296.2	275.6
60°	551.2	448.2	315.5	249.8	229.2
62.5°	498.4	395.4	270.4	208.6	198.3
65°	444.3	340.0	224.1	180.3	176.4
67.5°	392.8	288.5	180.3	158.4	154.5
70°	338.7	238.2	149.4	136.5	131.4
72.5°	287.2	191.9	124.9	114.6	112.0
75°	237.0	146.8	103.0	94.0	92.7
77.5°	186.7	104.3	81.1	76.0	73.4
80°	140.4	74.7	61.8	56.7	56.7
82.5°	97.9	50.2	42.5	39.9	39.9
85°	55.4	28.3	24.5	24.5	24.5
87.5°	20.6	10.3	10.3	9.0	9.0
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	22.70	24.22	23.06	24.53	24.85	18.66	20.18	19.02	20.49	20.81
	3H	24.46	25.83	24.84	26.16	26.52	19.92	21.29	20.30	21.62	21.98
	4H	25.13	26.41	25.53	26.76	27.14	20.43	21.71	20.83	22.06	22.43
	6H	25.62	26.80	26.03	27.17	27.56	20.81	21.99	21.22	22.36	22.75
	8H	25.79	26.91	26.21	27.30	27.70	20.93	22.06	21.36	22.45	22.85
	12H	25.89	26.97	26.32	27.35	27.78	21.01	22.09	21.44	22.47	22.90
4H	2H	22.80	24.08	23.20	24.43	24.81	19.36	20.64	19.75	20.98	21.36
	3H	24.74	25.80	25.15	26.20	26.60	20.80	21.86	21.21	22.26	22.66
	4H	25.49	26.44	25.92	26.86	27.30	21.40	22.35	21.83	22.77	23.21
	6H	26.08	26.91	26.54	27.35	27.81	21.89	22.72	22.34	23.16	23.62
	8H	26.29	27.07	26.76	27.51	27.98	22.05	22.83	22.51	23.27	23.74
	12H	26.45	27.14	26.93	27.62	28.09	22.17	22.86	22.65	23.34	23.81
8H	4H	25.51	26.29	25.97	26.73	27.20	21.75	22.53	22.21	22.97	23.44
	6H	26.15	26.79	26.64	27.28	27.76	22.34	22.98	22.83	23.47	23.95
	8H	26.40	26.97	26.91	27.48	27.97	22.56	23.14	23.07	23.65	24.13
	12H	26.60	27.11	27.11	27.60	28.17	22.74	23.25	23.25	23.74	24.31
12H	4H	25.49	26.19	25.98	26.67	27.14	21.79	22.49	22.28	22.97	23.44
	6H	26.13	26.71	26.64	27.22	27.70	22.40	22.98	22.92	23.49	23.98
	8H	26.41	26.92	26.92	27.42	27.98	22.67	23.18	23.18	23.68	24.24