

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: P243142

Luminaire Tested: S122DRP-H865D940-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243142  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-48)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DRP-H865D940-X4F0-XX-UDD-F-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

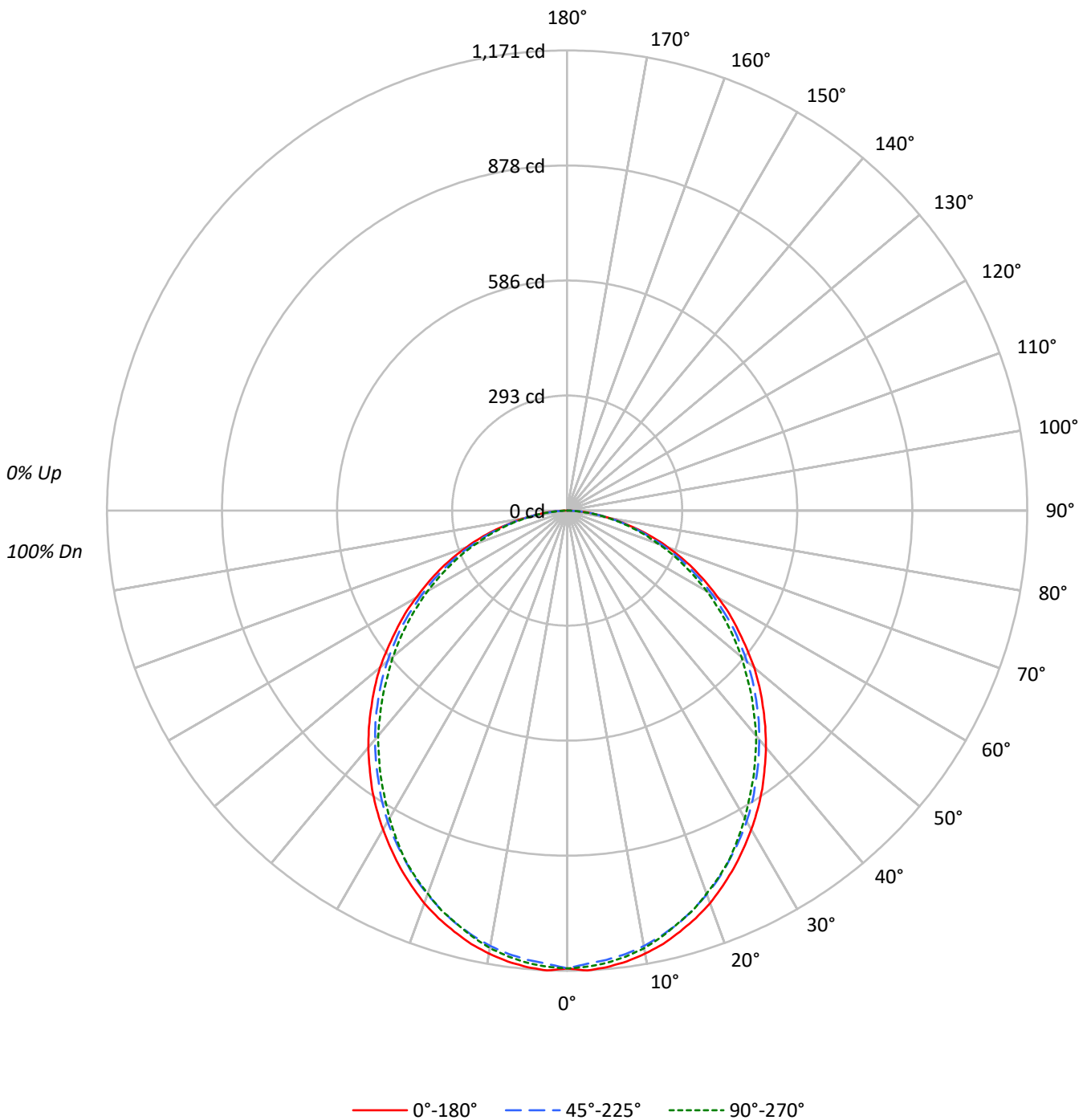
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2964.4 lumens  
Efficiency: N/A  
Efficacy: 94.1 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): 31.5  
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	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	28	38	32	27	37	32	27	26

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

	0°	45°	90°
0°	22191	22191	22191
5°	22294	21946	22090
10°	22138	21763	21868
15°	21871	21469	21449
20°	21547	21069	21024
25°	21099	20580	20557
30°	20615	20096	19885
35°	20123	19474	19226
40°	19569	18902	18609
45°	18975	18309	17846
50°	18423	17691	17149
55°	17650	17043	16402
60°	16892	16240	15627
65°	16162	15387	14711
70°	15187	14413	13695
75°	13828	13276	12644
80°	12011	11660	11189
85°	10315	9157	8458

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 18975 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	109.7	3.7
10°-20°	308.8	10.4
20°-30°	454.0	15.3
30°-40°	527.1	17.8
40°-50°	526.4	17.8
50°-60°	458.5	15.5
60°-70°	339.1	11.4
70°-80°	191.1	6.4
80°-90°	49.8	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°	872.4	29.4
0°-40°	1399.5	47.2
0°-60°	2384.4	80.4
0°-90°	2964.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2964.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1165	1165	1165	1165	1165	
5°	1166	1161	1148	1158	1155	111
15°	1109	1104	1089	1093	1088	313
25°	1004	995	979	978	978	462
35°	865	856	838	830	827	541
45°	704	697	680	669	662	544
55°	532	527	513	499	494	476
65°	359	353	341	331	326	354
75°	188	187	180	174	172	200
85°	47	45	42	40	39	53
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1165.0	1165.0	1165.0	1165.0	1165.0
2.5°	1171.4	1166.0	1154.2	1163.9	1161.8
5°	1166.0	1160.7	1147.8	1157.5	1155.3
7.5°	1157.5	1152.1	1138.1	1147.8	1144.6
10°	1144.6	1138.1	1125.2	1131.7	1130.6
12.5°	1129.5	1123.1	1108.1	1113.4	1111.3
15°	1109.1	1103.8	1088.7	1093.0	1087.7
17.5°	1087.7	1079.1	1065.1	1069.4	1066.2
20°	1063.0	1054.4	1039.4	1041.5	1037.2
22.5°	1034.0	1025.4	1011.4	1011.4	1009.3
25°	1003.9	995.3	979.2	978.1	978.1
27.5°	970.6	963.1	947.0	943.8	941.6
30°	937.3	930.9	913.7	907.3	904.1
32.5°	901.9	893.3	877.2	869.7	864.3
35°	865.4	855.7	837.5	830.0	826.8
37.5°	825.7	816.0	799.9	793.5	787.0
40°	787.0	778.4	760.2	750.5	748.4
42.5°	746.2	737.6	721.5	710.8	704.4
45°	704.4	696.8	679.7	668.9	662.5
47.5°	663.6	655.0	639.9	627.0	618.5
50°	621.7	613.1	597.0	582.0	578.7
52.5°	575.5	570.1	554.0	540.1	535.8
55°	531.5	527.2	513.2	499.3	493.9
57.5°	489.6	484.2	468.1	457.4	451.0
60°	443.4	440.2	426.3	414.5	410.2
62.5°	400.5	396.2	384.4	372.6	367.2
65°	358.6	353.3	341.4	330.7	326.4
67.5°	315.7	310.3	300.6	292.0	287.8
70°	272.7	268.4	258.8	251.2	245.9
72.5°	230.8	226.6	218.0	210.4	209.4
75°	187.9	186.8	180.4	173.9	171.8
77.5°	148.2	147.1	142.8	139.6	137.4
80°	109.5	109.5	106.3	103.1	102.0
82.5°	75.2	76.2	73.0	70.9	70.9
85°	47.2	45.1	41.9	39.7	38.7
87.5°	19.3	16.1	15.0	11.8	10.7
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	22.05	23.66	22.42	23.98	24.29	21.63	23.24	21.99	23.55	23.86
	3H	23.81	25.26	24.18	25.59	25.95	23.33	24.78	23.70	25.11	25.47
	4H	24.45	25.82	24.85	26.17	26.55	23.95	25.32	24.35	25.67	26.04
	6H	24.91	26.18	25.32	26.54	26.93	24.41	25.68	24.82	26.05	26.44
	8H	25.05	26.26	25.47	26.65	27.05	24.55	25.76	24.98	26.15	26.55
	12H	25.14	26.30	25.57	26.68	27.11	24.63	25.79	25.06	26.17	26.60
4H	2H	22.61	23.98	23.01	24.33	24.71	22.27	23.64	22.67	23.99	24.36
	3H	24.59	25.73	25.00	26.13	26.53	24.19	25.33	24.60	25.73	26.13
	4H	25.37	26.40	25.80	26.82	27.25	24.94	25.97	25.37	26.38	26.82
	6H	25.95	26.86	26.41	27.30	27.75	25.52	26.42	25.97	26.86	27.32
	8H	26.14	26.98	26.60	27.43	27.89	25.70	26.55	26.16	26.99	27.46
	12H	26.27	27.03	26.75	27.51	27.98	25.82	26.58	26.30	27.05	27.52
8H	4H	25.64	26.49	26.10	26.93	27.39	25.26	26.10	25.72	26.55	27.01
	6H	26.34	27.04	26.83	27.53	28.01	25.95	26.66	26.45	27.14	27.62
	8H	26.60	27.23	27.11	27.73	28.22	26.20	26.83	26.71	27.34	27.83
	12H	26.80	27.36	27.31	27.85	28.41	26.38	26.94	26.89	27.43	27.99
12H	4H	25.66	26.42	26.14	26.90	27.37	25.29	26.05	25.77	26.53	27.00
	6H	26.38	27.01	26.89	27.52	28.01	26.01	26.64	26.52	27.15	27.63
	8H	26.69	27.25	27.20	27.74	28.30	26.31	26.87	26.82	27.36	27.92