

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: P243208

Luminaire Tested: S122DRP-H290D940-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243208
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-53)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DRP-H290D940-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

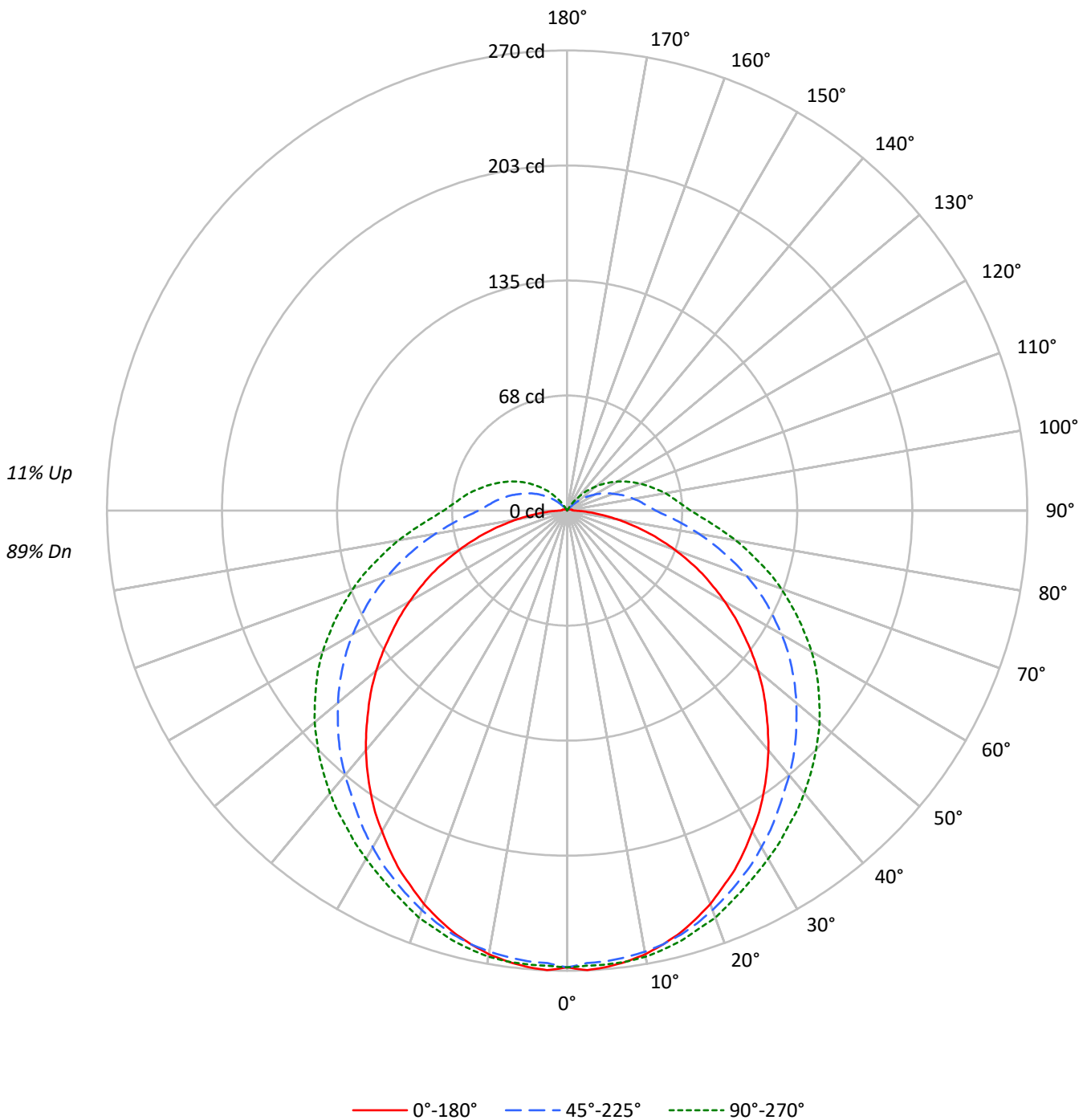
Lumens per Lamp: N/A
Luminaire Lumens: 1028.6 lumens
Efficiency: N/A
Efficacy: 91.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 11.2
Input Voltage (V): 120
Input Current (A_{in}): 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	116	116	116	116	112	112	112	112	105	105	105	98	98	98	92	92	92	89
1	104	98	93	88	100	95	90	86	88	84	81	82	79	76	77	74	72	69
2	93	84	77	70	90	81	74	68	76	70	65	71	66	62	66	62	59	56
3	85	73	64	57	81	71	63	56	66	59	54	62	56	51	58	53	49	46
4	77	64	55	48	74	62	54	47	58	51	45	55	48	43	51	46	41	39
5	71	57	48	41	68	55	47	40	52	44	39	49	42	37	46	40	36	33
6	65	51	42	35	63	50	41	35	47	39	34	44	37	32	41	36	31	29
7	60	46	37	31	58	45	37	30	42	35	29	40	33	28	38	32	28	25
8	56	42	33	27	54	41	33	27	39	31	26	37	30	25	35	29	25	22
9	52	39	30	25	50	38	30	24	36	28	24	34	27	23	32	26	22	20
10	49	36	28	22	47	35	27	22	33	26	21	31	25	21	30	24	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5105	5105	5105
5°	5130	4895	4868
10°	5093	4733	4670
15°	5029	4567	4462
20°	4940	4386	4266
25°	4840	4207	4064
30°	4721	4039	3901
35°	4609	3872	3757
40°	4487	3728	3639
45°	4351	3599	3519
50°	4227	3468	3409
55°	4066	3342	3290
60°	3922	3204	3173
65°	3766	3066	3032
70°	3534	2899	2895
75°	3284	2720	2737
80°	2923	2546	2597
85°	2561	2407	2458

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4351 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	25.4	2.5
10°-20°	73.0	7.1
20°-30°	110.5	10.7
30°-40°	134.8	13.1
40°-50°	145.1	14.1
50°-60°	141.0	13.7
60°-70°	123.3	12.0
70°-80°	94.9	9.2
80°-90°	63.8	6.2
90°-100°	44.2	4.3
100°-110°	32.5	3.2
110°-120°	21.6	2.1
120°-130°	12.2	1.2
130°-140°	5.3	0.5
140°-150°	1.0	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	208.9	20.3
0°-40°	343.7	33.4
0°-60°	629.8	61.2
0°-90°	911.8	88.7
90°-120°	98.2	9.6
90°-150°	116.7	11.3
90°-180°	117.0	11.4
0°-180°	1028.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	268	268	268	268	268	
5°	269	268	265	268	267	26
15°	256	258	258	261	261	72
25°	233	236	239	244	245	107
35°	201	208	215	224	226	126
45°	165	175	190	201	205	127
55°	126	141	161	176	180	113
65°	87	106	129	145	150	86
75°	48	70	95	112	116	51
85°	15	38	64	80	85	15
90°	4	27	52	68	72	3
95°	3	22	45	60	65	2
105°	2	13	34	48	52	2
115°	2	6	24	36	40	1
125°	1	1	14	24	28	1
135°	0	0	5	13	16	0
145°	0	0	0	3	4	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	268.0	268.0	268.0	268.0	268.0
2.5°	269.9	268.8	265.8	268.0	267.3
5°	268.8	267.7	265.4	267.7	267.3
7.5°	266.9	266.2	264.3	267.3	266.9
10°	264.3	263.9	262.8	265.8	265.8
12.5°	260.6	260.9	260.6	263.9	263.5
15°	256.5	257.6	257.6	260.9	260.9
17.5°	251.2	253.1	253.8	257.6	257.2
20°	245.6	247.9	249.4	253.5	254.2
22.5°	238.9	242.3	244.5	249.0	249.4
25°	232.6	236.3	239.3	244.5	244.9
27.5°	225.1	229.6	234.1	239.3	240.4
30°	217.3	222.9	228.1	234.4	235.9
32.5°	209.8	215.4	222.1	228.8	231.4
35°	201.2	207.9	215.4	223.6	226.2
37.5°	192.6	199.7	208.7	218.4	221.7
40°	183.7	191.9	202.7	213.2	216.5
42.5°	174.3	183.3	196.4	207.2	210.9
45°	165.0	175.1	189.6	201.2	205.3
47.5°	156.0	166.9	182.5	195.6	199.3
50°	146.3	158.3	175.5	188.9	193.4
52.5°	136.3	149.7	168.4	182.2	186.6
55°	126.2	141.1	160.9	175.5	179.9
57.5°	116.8	132.5	153.4	168.0	173.2
60°	106.8	123.6	145.2	160.5	165.7
62.5°	96.7	115.0	137.0	152.7	157.5
65°	87.4	106.0	129.2	144.8	149.7
67.5°	76.9	96.7	120.6	137.0	141.5
70°	67.2	88.1	112.0	128.4	133.6
72.5°	57.5	78.8	103.4	119.8	125.4
75°	48.2	70.2	94.8	111.6	116.5
77.5°	38.4	61.6	86.6	103.4	108.3
80°	29.9	53.0	78.4	95.2	100.4
82.5°	21.3	45.2	70.9	87.4	92.2
85°	14.6	38.4	63.8	79.9	84.7
87.5°	8.6	32.1	57.1	73.2	78.0
90°	4.1	26.9	51.9	67.6	72.4
92.5°	3.4	24.3	48.2	63.5	68.3
95°	3.0	21.7	45.2	60.1	64.6
97.5°	3.0	19.8	42.6	57.1	61.6
100°	2.6	17.5	39.6	53.8	58.6
102.5°	2.6	15.3	37.0	50.8	55.2
105°	2.2	13.4	34.3	47.8	51.9
107.5°	1.9	11.6	31.4	44.8	48.9
110°	1.9	9.7	28.7	41.8	45.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.5	8.2	26.5	38.8	42.9
115°	1.5	6.3	23.9	35.8	39.9
117.5°	1.5	4.5	21.3	32.9	37.0
120°	1.1	3.0	19.0	30.2	34.0
122.5°	1.1	1.9	16.4	27.3	31.0
125°	1.1	0.7	14.2	24.3	28.0
127.5°	0.7	0.7	11.6	21.7	25.0
130°	0.7	0.4	9.3	18.7	22.0
132.5°	0.7	0.4	7.1	16.1	19.0
135°	0.4	0.4	4.9	13.1	16.4
137.5°	0.4	0.4	2.6	10.5	13.1
140°	0.4	0.0	1.1	7.8	10.1
142.5°	0.4	0.0	0.0	5.2	7.5
145°	0.4	0.0	0.0	3.0	4.5
147.5°	0.0	0.0	0.0	0.7	2.2
150°	0.0	0.0	0.0	0.0	0.4
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	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	13.88	15.36	14.41	15.89	16.47	16.95	18.42	17.47	18.95	19.54
	3H	15.38	16.73	15.92	17.27	17.89	19.58	20.93	20.12	21.47	22.09
	4H	15.89	17.17	16.45	17.72	18.36	20.86	22.14	21.42	22.70	23.33
	6H	16.20	17.40	16.78	17.97	18.62	22.18	23.38	22.76	23.95	24.60
	8H	16.28	17.43	16.87	18.02	18.67	22.87	24.02	23.45	24.61	25.26
	12H	16.32	17.42	16.91	18.00	18.69	23.62	24.72	24.21	25.31	25.99
4H	2H	15.00	16.28	15.56	16.84	17.47	17.34	18.62	17.90	19.18	19.81
	3H	16.76	17.86	17.33	18.45	19.11	20.18	21.28	20.76	21.88	22.53
	4H	17.41	18.42	18.00	19.02	19.71	21.62	22.63	22.22	23.24	23.92
	6H	17.86	18.75	18.47	19.38	20.08	23.13	24.02	23.74	24.65	25.35
	8H	17.99	18.83	18.60	19.46	20.17	23.91	24.75	24.53	25.38	26.09
	12H	18.06	18.83	18.70	19.48	20.20	24.78	25.54	25.42	26.20	26.91
8H	4H	18.25	19.09	18.87	19.72	20.43	21.82	22.66	22.43	23.29	24.00
	6H	18.91	19.63	19.56	20.30	21.01	23.48	24.20	24.13	24.86	25.58
	8H	19.14	19.79	19.80	20.47	21.19	24.39	25.03	25.05	25.71	26.44
	12H	19.31	19.89	19.97	20.56	21.35	25.42	26.00	26.08	26.66	27.45
12H	4H	18.48	19.25	19.12	19.90	20.62	21.82	22.59	22.46	23.24	23.96
	6H	19.26	19.90	19.92	20.58	21.31	23.51	24.16	24.17	24.84	25.56
	8H	19.59	20.17	20.26	20.84	21.63	24.48	25.06	25.15	25.73	26.52