

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: P242333

Luminaire Tested: S122DRP-S290D840-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242333
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-14)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DRP-S290D840-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

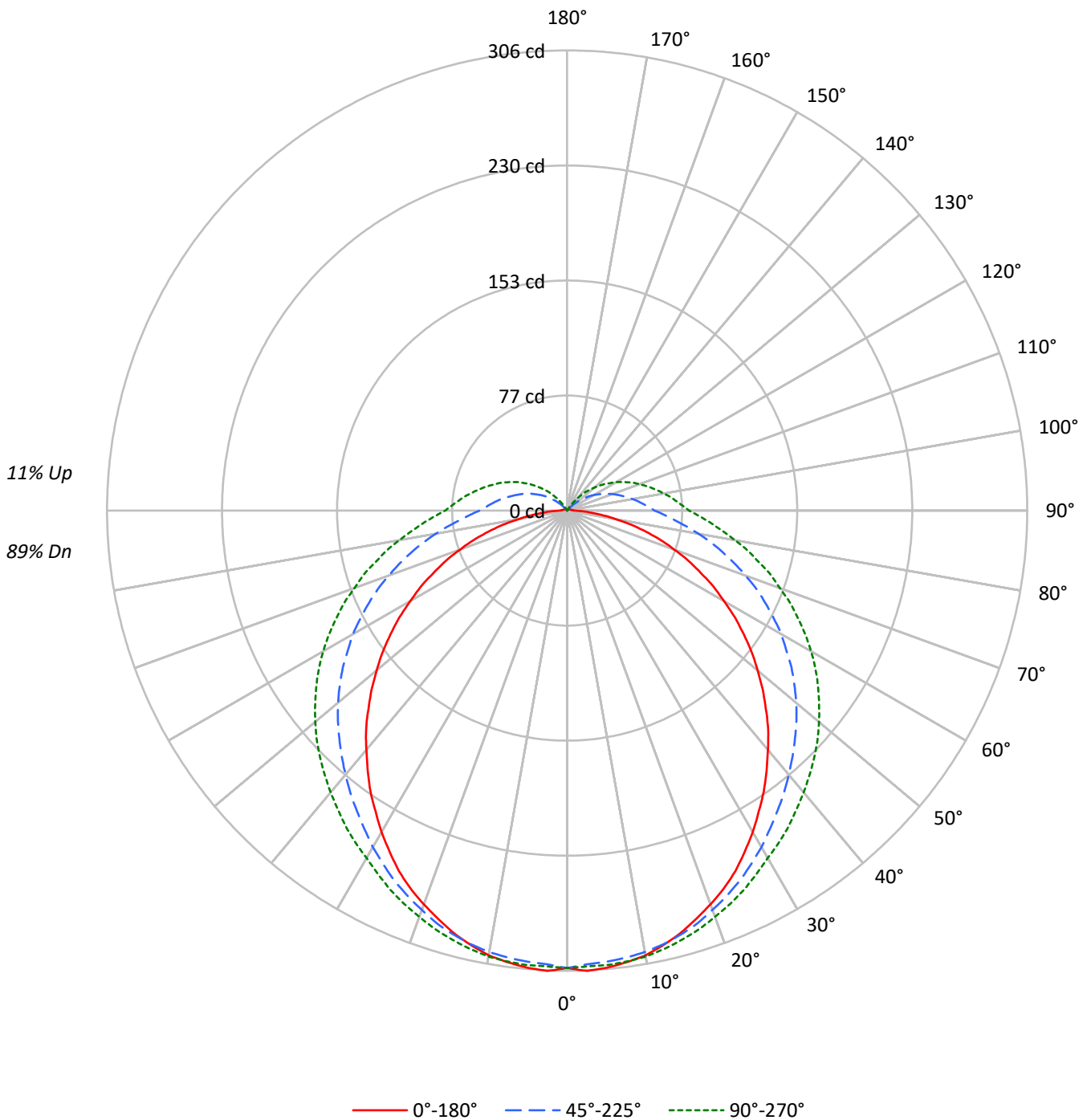
Lumens per Lamp: N/A
Luminaire Lumens: 1160.9 lumens
Efficiency: N/A
Efficacy: 100.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 11.6
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	85	81	82	79	77	77	75	72	69
2	94	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	42	39
5	71	57	48	41	68	56	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	42	36	31	29
7	60	46	37	31	58	45	37	31	43	35	30	40	34	29	38	32	28	25
8	56	42	34	28	54	41	33	27	39	32	26	37	30	25	35	29	25	23
9	52	39	30	25	50	38	30	24	36	29	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°	5794	5794	5794
5°	5823	5555	5525
10°	5786	5369	5292
15°	5706	5175	5052
20°	5605	4970	4824
25°	5506	4775	4617
30°	5364	4576	4412
35°	5223	4383	4262
40°	5073	4218	4113
45°	4931	4067	3984
50°	4776	3930	3855
55°	4617	3783	3725
60°	4422	3630	3588
65°	4218	3453	3429
70°	3986	3264	3259
75°	3692	3073	3096
80°	3236	2877	2931
85°	2789	2694	2789

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4931 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	28.8	2.5
10°-20°	82.7	7.1
20°-30°	125.3	10.8
30°-40°	152.6	13.1
40°-50°	164.2	14.1
50°-60°	159.5	13.7
60°-70°	139.3	12.0
70°-80°	107.2	9.2
80°-90°	71.8	6.2
90°-100°	49.5	4.3
100°-110°	36.2	3.1
110°-120°	23.9	2.1
120°-130°	13.3	1.1
130°-140°	5.6	0.5
140°-150°	0.9	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	236.9	20.4
0°-40°	389.5	33.6
0°-60°	713.2	61.4
0°-90°	1031.5	88.9
90°-120°	109.6	9.4
90°-150°	129.4	11.1
90°-180°	129.0	11.1
0°-180°	1160.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	304	304	304	304	304	
5°	305	304	301	304	303	29
15°	291	292	292	296	295	82
25°	265	268	272	277	278	122
35°	228	236	244	254	257	142
45°	187	199	214	228	232	144
55°	143	159	182	198	204	128
65°	98	120	146	164	169	97
75°	54	79	107	126	132	57
85°	16	43	71	90	96	17
90°	4	30	58	76	81	3
95°	4	24	51	68	73	3
105°	2	15	38	53	58	3
115°	2	7	26	40	44	2
125°	1	1	15	27	31	1
135°	0	0	5	14	18	0
145°	0	0	0	3	5	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°	304.2	304.2	304.2	304.2	304.2
2.5°	306.4	305.1	302.0	304.2	303.4
5°	305.1	303.8	301.2	303.8	303.4
7.5°	302.9	302.0	299.8	302.9	302.5
10°	300.3	299.4	298.1	301.6	301.2
12.5°	295.9	296.3	295.4	299.0	298.5
15°	291.0	291.9	291.9	295.9	295.4
17.5°	284.8	286.6	287.9	291.9	291.9
20°	278.7	280.9	282.6	287.5	287.5
22.5°	272.1	274.7	277.3	282.2	283.1
25°	264.6	267.6	271.6	276.9	278.2
27.5°	255.7	260.6	265.0	271.6	272.5
30°	246.9	252.7	258.4	265.4	266.8
32.5°	237.2	243.8	250.9	259.3	261.9
35°	228.0	235.5	243.8	253.5	256.6
37.5°	217.8	226.2	236.8	247.4	250.4
40°	207.7	217.4	229.3	240.7	244.7
42.5°	198.0	207.7	221.8	234.6	238.5
45°	187.0	198.9	214.3	228.0	232.4
47.5°	176.4	189.2	206.8	220.9	225.8
50°	165.3	179.0	198.9	213.9	218.7
52.5°	154.8	169.3	190.5	205.9	211.2
55°	143.3	159.2	182.1	198.0	203.7
57.5°	132.3	149.9	172.8	190.0	195.8
60°	120.4	139.3	164.5	181.2	187.4
62.5°	109.8	129.6	154.8	172.8	178.6
65°	97.9	119.5	145.5	163.6	169.3
67.5°	87.3	109.8	136.2	154.3	160.5
70°	75.8	98.8	126.1	145.1	150.4
72.5°	65.3	89.1	116.8	135.4	142.0
75°	54.2	78.9	107.1	126.1	131.8
77.5°	43.7	69.2	97.9	116.8	123.0
80°	33.1	60.0	88.6	107.1	113.3
82.5°	24.3	50.7	79.8	98.3	104.1
85°	15.9	43.2	71.4	89.9	96.1
87.5°	9.7	36.2	64.4	82.5	88.2
90°	4.4	30.0	58.2	75.8	81.1
92.5°	4.0	27.3	54.2	71.4	76.7
95°	3.5	24.3	50.7	67.5	72.8
97.5°	3.1	22.0	47.6	63.9	69.2
100°	3.1	19.4	44.1	60.4	65.3
102.5°	2.6	17.2	41.0	56.9	61.7
105°	2.2	15.0	37.9	53.4	58.2
107.5°	2.2	12.8	34.8	49.8	54.7
110°	1.8	10.6	32.2	46.3	51.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.8	8.8	29.1	43.2	48.1
115°	1.8	6.6	26.5	39.7	44.5
117.5°	1.3	4.9	23.4	36.6	41.0
120°	1.3	3.1	20.7	33.1	37.9
122.5°	1.3	1.8	18.1	30.0	34.0
125°	0.9	0.9	15.0	26.9	30.9
127.5°	0.9	0.4	12.3	23.4	27.3
130°	0.9	0.4	9.7	20.3	23.8
132.5°	0.9	0.4	7.1	17.2	20.7
135°	0.4	0.4	4.9	14.1	17.6
137.5°	0.4	0.4	2.6	11.0	14.1
140°	0.4	0.0	0.9	7.9	10.6
142.5°	0.4	0.0	0.0	5.3	7.5
145°	0.0	0.0	0.0	2.6	4.9
147.5°	0.0	0.0	0.0	0.4	1.8
150°	0.0	0.0	0.0	0.0	0.0
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	14.32	15.80	14.85	16.33	16.91	17.39	18.87	17.91	19.39	19.97
	3H	15.82	17.18	16.36	17.72	18.33	20.01	21.37	20.55	21.91	22.52
	4H	16.32	17.61	16.88	18.16	18.79	21.29	22.58	21.85	23.13	23.76
	6H	16.64	17.84	17.21	18.40	19.05	22.62	23.82	23.20	24.39	25.03
	8H	16.72	17.87	17.30	18.45	19.10	23.31	24.46	23.89	25.04	25.69
	12H	16.75	17.86	17.34	18.44	19.12	24.06	25.16	24.65	25.75	26.43
4H	2H	15.43	16.72	15.99	17.27	17.90	17.78	19.06	18.34	19.61	20.24
	3H	17.19	18.29	17.76	18.89	19.54	20.62	21.72	21.19	22.31	22.96
	4H	17.84	18.85	18.43	19.45	20.13	22.06	23.07	22.65	23.67	24.35
	6H	18.29	19.18	18.90	19.81	20.50	23.57	24.46	24.17	25.09	25.78
	8H	18.41	19.26	19.03	19.88	20.59	24.34	25.19	24.96	25.81	26.52
	12H	18.49	19.26	19.13	19.91	20.62	25.21	25.98	25.85	26.63	27.34
8H	4H	18.68	19.52	19.29	20.15	20.85	22.25	23.10	22.87	23.72	24.43
	6H	19.34	20.06	19.98	20.72	21.43	23.91	24.63	24.56	25.30	26.01
	8H	19.57	20.22	20.23	20.89	21.62	24.82	25.47	25.48	26.14	26.86
	12H	19.74	20.32	20.40	20.98	21.76	25.85	26.43	26.51	27.09	27.88
12H	4H	18.91	19.68	19.54	20.33	21.04	22.26	23.03	22.90	23.68	24.39
	6H	19.68	20.33	20.34	21.01	21.73	23.95	24.60	24.60	25.27	25.99
	8H	20.02	20.60	20.68	21.26	22.05	24.91	25.49	25.57	26.16	26.94