

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: P243195

Luminaire Tested: S122DRP-H675D840-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243195
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-H675D840-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

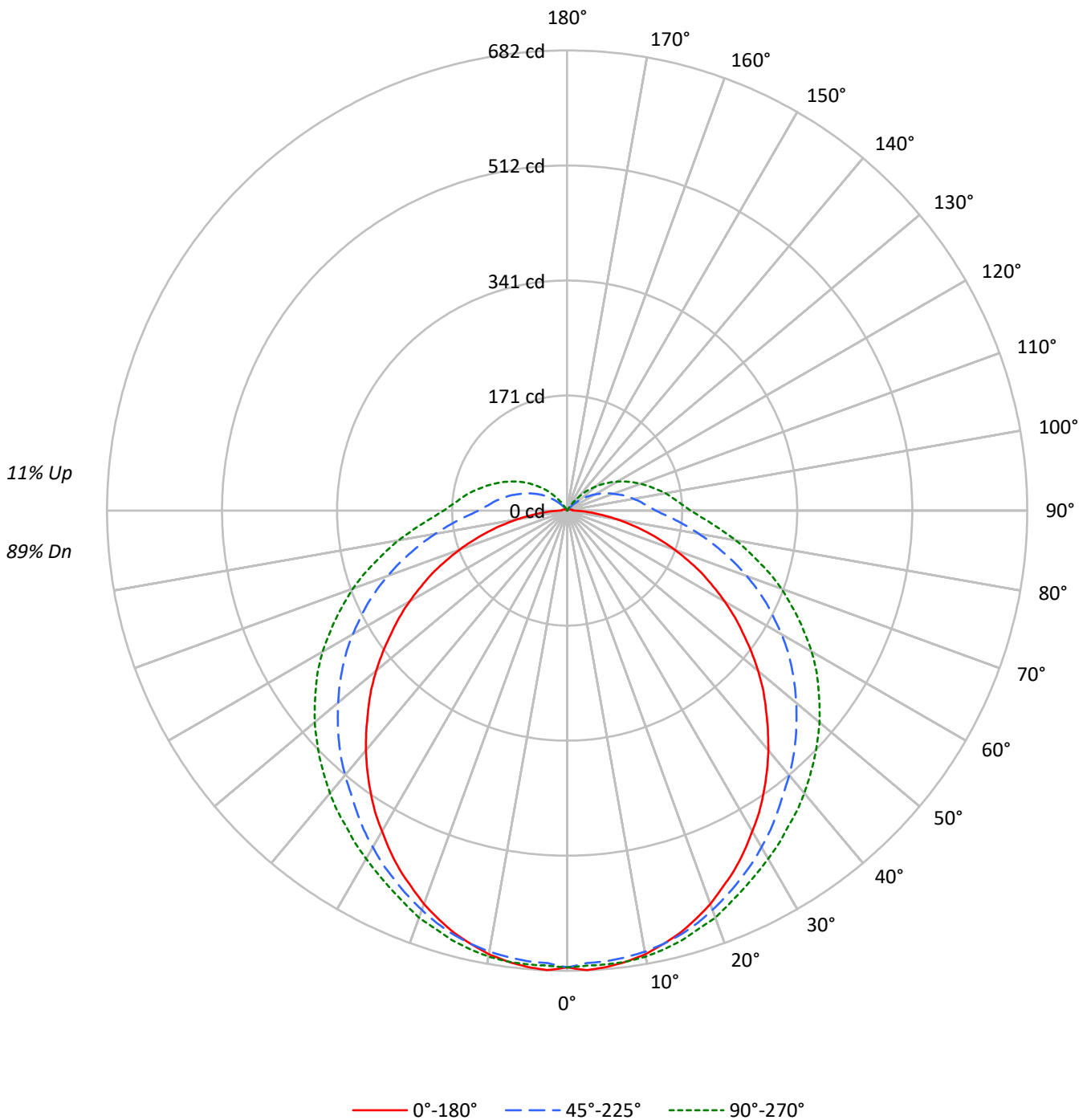
Lumens per Lamp: N/A
Luminaire Lumens: 2597.8 lumens
Efficiency: N/A
Efficacy: 110.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 23.6
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	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°	12895	12895	12895
5°	12957	12365	12294
10°	12864	11955	11796
15°	12701	11534	11271
20°	12478	11078	10775
25°	12223	10625	10264
30°	11923	10202	9855
35°	11642	9779	9490
40°	11330	9418	9192
45°	10991	9091	8890
50°	10679	8758	8610
55°	10268	8442	8311
60°	9905	8095	8015
65°	9504	7742	7658
70°	8924	7322	7316
75°	8284	6873	6912
80°	7372	6430	6560
85°	6456	6082	6210

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10991 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.2	2.5
10°-20°	184.3	7.1
20°-30°	279.2	10.7
30°-40°	340.5	13.1
40°-50°	366.4	14.1
50°-60°	356.2	13.7
60°-70°	311.4	12.0
70°-80°	239.8	9.2
80°-90°	161.1	6.2
90°-100°	111.5	4.3
100°-110°	82.0	3.2
110°-120°	54.6	2.1
120°-130°	30.9	1.2
130°-140°	13.3	0.5
140°-150°	2.4	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	527.7	20.3
0°-40°	868.1	33.4
0°-60°	1590.8	61.2
0°-90°	2303.1	88.7
90°-120°	248.1	9.5
90°-150°	294.7	11.3
90°-180°	295.0	11.4
0°-180°	2597.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	677	677	677	677	677	
5°	679	676	670	676	675	64
15°	648	651	651	659	659	182
25°	587	597	604	618	618	270
35°	508	525	544	565	571	318
45°	417	442	479	508	519	322
55°	319	356	406	443	454	286
65°	221	268	326	366	378	217
75°	122	177	240	282	294	128
85°	37	97	161	202	214	38
90°	10	68	131	171	183	7
95°	8	55	114	152	163	6
105°	6	34	87	121	131	6
115°	4	16	60	90	101	4
125°	3	2	36	61	71	2
135°	1	1	12	33	42	1
145°	1	0	0	8	11	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°	677.0	677.0	677.0	677.0	677.0
2.5°	681.7	678.9	671.3	677.0	675.1
5°	678.9	676.1	670.4	676.1	675.1
7.5°	674.2	672.3	667.6	675.1	674.2
10°	667.6	666.6	663.8	671.3	671.3
12.5°	658.1	659.1	658.1	666.6	665.7
15°	647.8	650.6	650.6	659.1	659.1
17.5°	634.6	639.3	641.2	650.6	649.7
20°	620.4	626.1	629.9	640.2	642.1
22.5°	603.5	611.9	617.6	628.9	629.9
25°	587.4	596.9	604.4	617.6	618.5
27.5°	568.6	579.9	591.2	604.4	607.2
30°	548.8	562.9	576.1	592.1	595.9
32.5°	529.9	544.0	561.0	578.0	584.6
35°	508.2	525.2	544.0	564.8	571.4
37.5°	486.5	504.4	527.1	551.6	560.1
40°	463.9	484.6	512.0	538.4	546.9
42.5°	440.3	463.0	496.0	523.3	532.7
45°	416.8	442.2	479.0	508.2	518.6
47.5°	394.1	421.5	461.1	494.1	503.5
50°	369.6	399.8	443.2	477.1	488.4
52.5°	344.2	378.1	425.2	460.1	471.4
55°	318.7	356.4	406.4	443.2	454.5
57.5°	295.1	334.7	387.5	424.3	437.5
60°	269.7	312.1	366.8	405.4	418.6
62.5°	244.2	290.4	346.0	385.6	397.9
65°	220.6	267.8	326.2	365.8	378.1
67.5°	194.2	244.2	304.6	346.0	357.4
70°	169.7	222.5	282.9	324.4	337.6
72.5°	145.2	199.0	261.2	302.7	316.8
75°	121.6	177.3	239.5	281.9	294.2
77.5°	97.1	155.6	218.8	261.2	273.4
80°	75.4	133.9	198.0	240.4	253.6
82.5°	53.7	114.1	179.1	220.6	232.9
85°	36.8	97.1	161.2	201.8	214.0
87.5°	21.7	81.1	144.3	184.8	197.1
90°	10.4	67.9	131.1	170.7	182.9
92.5°	8.5	61.3	121.6	160.3	172.5
95°	7.5	54.7	114.1	151.8	163.1
97.5°	7.5	50.0	107.5	144.3	155.6
100°	6.6	44.3	99.9	135.8	148.0
102.5°	6.6	38.7	93.3	128.2	139.5
105°	5.7	33.9	86.7	120.7	131.1
107.5°	4.7	29.2	79.2	113.1	123.5
110°	4.7	24.5	72.6	105.6	116.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.8	20.7	66.9	98.1	108.4
115°	3.8	16.0	60.3	90.5	100.9
117.5°	3.8	11.3	53.7	83.0	93.3
120°	2.8	7.5	48.1	76.4	85.8
122.5°	2.8	4.7	41.5	68.8	78.3
125°	2.8	1.9	35.8	61.3	70.7
127.5°	1.9	1.9	29.2	54.7	63.2
130°	1.9	0.9	23.6	47.1	55.6
132.5°	1.9	0.9	17.9	40.5	48.1
135°	0.9	0.9	12.3	33.0	41.5
137.5°	0.9	0.9	6.6	26.4	33.0
140°	0.9	0.0	2.8	19.8	25.5
142.5°	0.9	0.0	0.0	13.2	18.9
145°	0.9	0.0	0.0	7.5	11.3
147.5°	0.0	0.0	0.0	1.9	5.7
150°	0.0	0.0	0.0	0.0	0.9
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	17.10	18.58	17.63	19.11	19.69	20.16	21.64	20.69	22.17	22.76
	3H	18.60	19.95	19.14	20.49	21.11	22.80	24.15	23.34	24.69	25.31
	4H	19.10	20.39	19.66	20.94	21.58	24.08	25.36	24.64	25.91	26.55
	6H	19.42	20.62	20.00	21.19	21.84	25.40	26.60	25.98	27.17	27.82
	8H	19.50	20.65	20.08	21.24	21.89	26.09	27.23	26.67	27.83	28.48
	12H	19.54	20.64	20.13	21.22	21.91	26.84	27.94	27.43	28.53	29.21
4H	2H	18.22	19.50	18.78	20.06	20.69	20.56	21.84	21.12	22.40	23.03
	3H	19.98	21.08	20.55	21.67	22.33	23.40	24.50	23.98	25.10	25.75
	4H	20.63	21.64	21.22	22.24	22.93	24.84	25.85	25.44	26.46	27.14
	6H	21.08	21.97	21.69	22.60	23.30	26.35	27.24	26.96	27.87	28.57
	8H	21.21	22.05	21.82	22.68	23.39	27.13	27.97	27.75	28.60	29.31
	12H	21.28	22.05	21.92	22.70	23.42	28.00	28.76	28.64	29.42	30.13
8H	4H	21.47	22.31	22.08	22.94	23.65	25.04	25.88	25.65	26.51	27.22
	6H	22.13	22.85	22.78	23.52	24.23	26.70	27.41	27.35	28.08	28.80
	8H	22.36	23.01	23.02	23.69	24.41	27.61	28.25	28.27	28.93	29.66
	12H	22.53	23.11	23.19	23.78	24.57	28.64	29.22	29.30	29.88	30.67
12H	4H	21.70	22.46	22.34	23.12	23.83	25.04	25.81	25.68	26.46	27.18
	6H	22.47	23.12	23.13	23.80	24.53	26.73	27.38	27.39	28.06	28.78
	8H	22.81	23.39	23.48	24.06	24.85	27.70	28.28	28.36	28.95	29.74