

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: P242335

Luminaire Tested: S122DRP-S675D840-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242335
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-S675D840-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

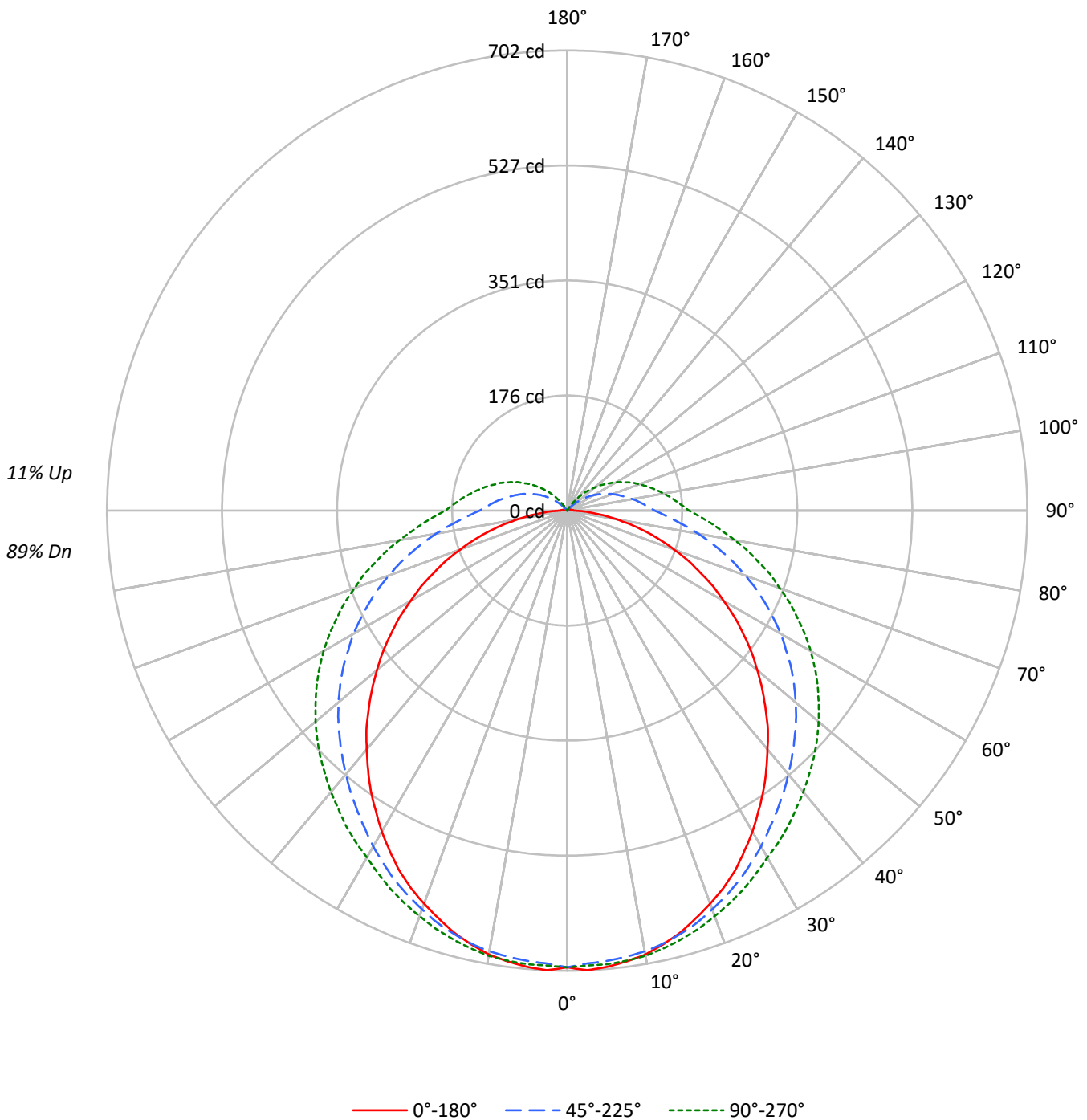
Lumens per Lamp: N/A
Luminaire Lumens: 2658.8 lumens
Efficiency: N/A
Efficacy: 100.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (Ain): 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

TEST NUMBER: P242335

CATALOG NUMBER: S122DRP-S675D840-X4F0-XX-UDD-D-W

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°	13272	13272	13272
5°	13336	12721	12652
10°	13251	12296	12119
15°	13068	11851	11571
20°	12836	11384	11048
25°	12608	10936	10574
30°	12285	10480	10105
35°	11960	10040	9761
40°	11616	9659	9420
45°	11292	9315	9123
50°	10942	8999	8830
55°	10574	8664	8532
60°	10126	8314	8218
65°	9659	7910	7854
70°	9134	7474	7463
75°	8461	7042	7093
80°	7401	6592	6712
85°	6386	6173	6390

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11292 cd/sqm



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CATALOG NUMBER: S122DRP-S675D840-X4F0-XX-UDD-D-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.1	2.5
10°-20°	189.4	7.1
20°-30°	287.1	10.8
30°-40°	349.6	13.1
40°-50°	376.1	14.1
50°-60°	365.3	13.7
60°-70°	319.0	12.0
70°-80°	245.5	9.2
80°-90°	164.4	6.2
90°-100°	113.4	4.3
100°-110°	82.8	3.1
110°-120°	54.7	2.1
120°-130°	30.5	1.1
130°-140°	12.8	0.5
140°-150°	2.2	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	542.6	20.4
0°-40°	892.1	33.6
0°-60°	1633.5	61.4
0°-90°	2362.4	88.9
90°-120°	251.0	9.4
90°-150°	296.4	11.1
90°-180°	296.0	11.1
0°-180°	2658.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	697	697	697	697	697	
5°	699	696	690	696	695	66
15°	666	668	668	678	677	188
25°	606	613	622	634	637	279
35°	522	539	558	581	588	326
45°	428	455	491	522	532	331
55°	328	365	417	453	467	294
65°	224	274	333	375	388	223
75°	124	181	245	289	302	131
85°	36	99	164	206	220	38
90°	10	69	133	174	186	7
95°	8	56	116	154	167	6
105°	5	34	87	122	133	6
115°	4	15	61	91	102	4
125°	2	2	34	62	71	2
135°	1	1	11	32	40	1
145°	0	0	0	6	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°	696.8	696.8	696.8	696.8	696.8
2.5°	701.9	698.8	691.8	696.8	694.8
5°	698.8	695.8	689.7	695.8	694.8
7.5°	693.8	691.8	686.7	693.8	692.8
10°	687.7	685.7	682.7	690.7	689.7
12.5°	677.6	678.6	676.6	684.7	683.7
15°	666.5	668.5	668.5	677.6	676.6
17.5°	652.4	656.4	659.4	668.5	668.5
20°	638.2	643.3	647.3	658.4	658.4
22.5°	623.1	629.1	635.2	646.3	648.3
25°	605.9	613.0	622.1	634.2	637.2
27.5°	585.7	596.8	606.9	622.1	624.1
30°	565.5	578.7	591.8	607.9	611.0
32.5°	543.3	558.5	574.6	593.8	599.9
35°	522.1	539.3	558.5	580.7	587.7
37.5°	498.9	518.1	542.3	566.5	573.6
40°	475.6	497.9	525.1	551.4	560.5
42.5°	453.4	475.6	508.0	537.2	546.3
45°	428.2	455.4	490.8	522.1	532.2
47.5°	403.9	433.2	473.6	505.9	517.1
50°	378.7	410.0	455.4	489.8	500.9
52.5°	354.5	387.8	436.3	471.6	483.7
55°	328.2	364.6	417.1	453.4	466.6
57.5°	303.0	343.4	395.9	435.3	448.4
60°	275.7	319.1	376.7	415.1	429.2
62.5°	251.5	296.9	354.5	395.9	409.0
65°	224.2	273.7	333.3	374.7	387.8
67.5°	200.0	251.5	312.0	353.5	367.6
70°	173.7	226.2	288.8	332.2	344.4
72.5°	149.5	204.0	267.6	310.0	325.2
75°	124.2	180.8	245.4	288.8	301.9
77.5°	100.0	158.5	224.2	267.6	281.8
80°	75.7	137.3	203.0	245.4	259.5
82.5°	55.5	116.1	182.8	225.2	238.3
85°	36.4	99.0	163.6	206.0	220.2
87.5°	22.2	82.8	147.4	188.8	202.0
90°	10.1	68.7	133.3	173.7	185.8
92.5°	9.1	62.6	124.2	163.6	175.7
95°	8.1	55.5	116.1	154.5	166.6
97.5°	7.1	50.5	109.1	146.4	158.5
100°	7.1	44.4	101.0	138.4	149.5
102.5°	6.1	39.4	93.9	130.3	141.4
105°	5.0	34.3	86.8	122.2	133.3
107.5°	5.0	29.3	79.8	114.1	125.2
110°	4.0	24.2	73.7	106.0	117.1



TEST NUMBER: P242335

CATALOG NUMBER: S122DRP-S675D840-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.0	20.2	66.7	99.0	110.1
115°	4.0	15.1	60.6	90.9	102.0
117.5°	3.0	11.1	53.5	83.8	93.9
120°	3.0	7.1	47.5	75.7	86.8
122.5°	3.0	4.0	41.4	68.7	77.8
125°	2.0	2.0	34.3	61.6	70.7
127.5°	2.0	1.0	28.3	53.5	62.6
130°	2.0	1.0	22.2	46.5	54.5
132.5°	2.0	1.0	16.2	39.4	47.5
135°	1.0	1.0	11.1	32.3	40.4
137.5°	1.0	1.0	6.1	25.2	32.3
140°	1.0	0.0	2.0	18.2	24.2
142.5°	1.0	0.0	0.0	12.1	17.2
145°	0.0	0.0	0.0	6.1	11.1
147.5°	0.0	0.0	0.0	1.0	4.0
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	17.20	18.69	17.73	19.21	19.79	20.27	21.75	20.79	22.28	22.85
	3H	18.70	20.06	19.24	20.60	21.21	22.89	24.25	23.43	24.79	25.40
	4H	19.21	20.49	19.76	21.04	21.67	24.17	25.46	24.73	26.01	26.64
	6H	19.52	20.72	20.09	21.28	21.93	25.50	26.70	26.08	27.27	27.91
	8H	19.60	20.75	20.18	21.33	21.98	26.19	27.34	26.77	27.92	28.57
	12H	19.63	20.74	20.22	21.32	22.00	26.94	28.04	27.53	28.62	29.31
4H	2H	18.31	19.60	18.87	20.15	20.78	20.66	21.94	21.22	22.50	23.12
	3H	20.07	21.17	20.64	21.77	22.42	23.50	24.60	24.07	25.19	25.84
	4H	20.72	21.73	21.31	22.33	23.01	24.94	25.95	25.53	26.55	27.23
	6H	21.17	22.06	21.78	22.69	23.38	26.45	27.34	27.05	27.97	28.66
	8H	21.29	22.14	21.91	22.76	23.47	27.22	28.07	27.84	28.69	29.40
	12H	21.37	22.14	22.00	22.79	23.50	28.09	28.86	28.73	29.51	30.22
8H	4H	21.56	22.40	22.17	23.03	23.73	25.13	25.98	25.75	26.60	27.31
	6H	22.22	22.94	22.86	23.60	24.31	26.79	27.51	27.44	28.18	28.89
	8H	22.45	23.10	23.11	23.77	24.50	27.70	28.35	28.36	29.02	29.74
	12H	22.61	23.19	23.28	23.86	24.64	28.73	29.31	29.39	29.97	30.76
12H	4H	21.79	22.56	22.43	23.21	23.92	25.14	25.91	25.78	26.56	27.27
	6H	22.56	23.21	23.22	23.89	24.61	26.83	27.48	27.48	28.15	28.87
	8H	22.90	23.48	23.56	24.14	24.93	27.79	28.37	28.45	29.04	29.82