

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: P242350

Luminaire Tested: S122DRP-S675D940-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242350
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-S675D940-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

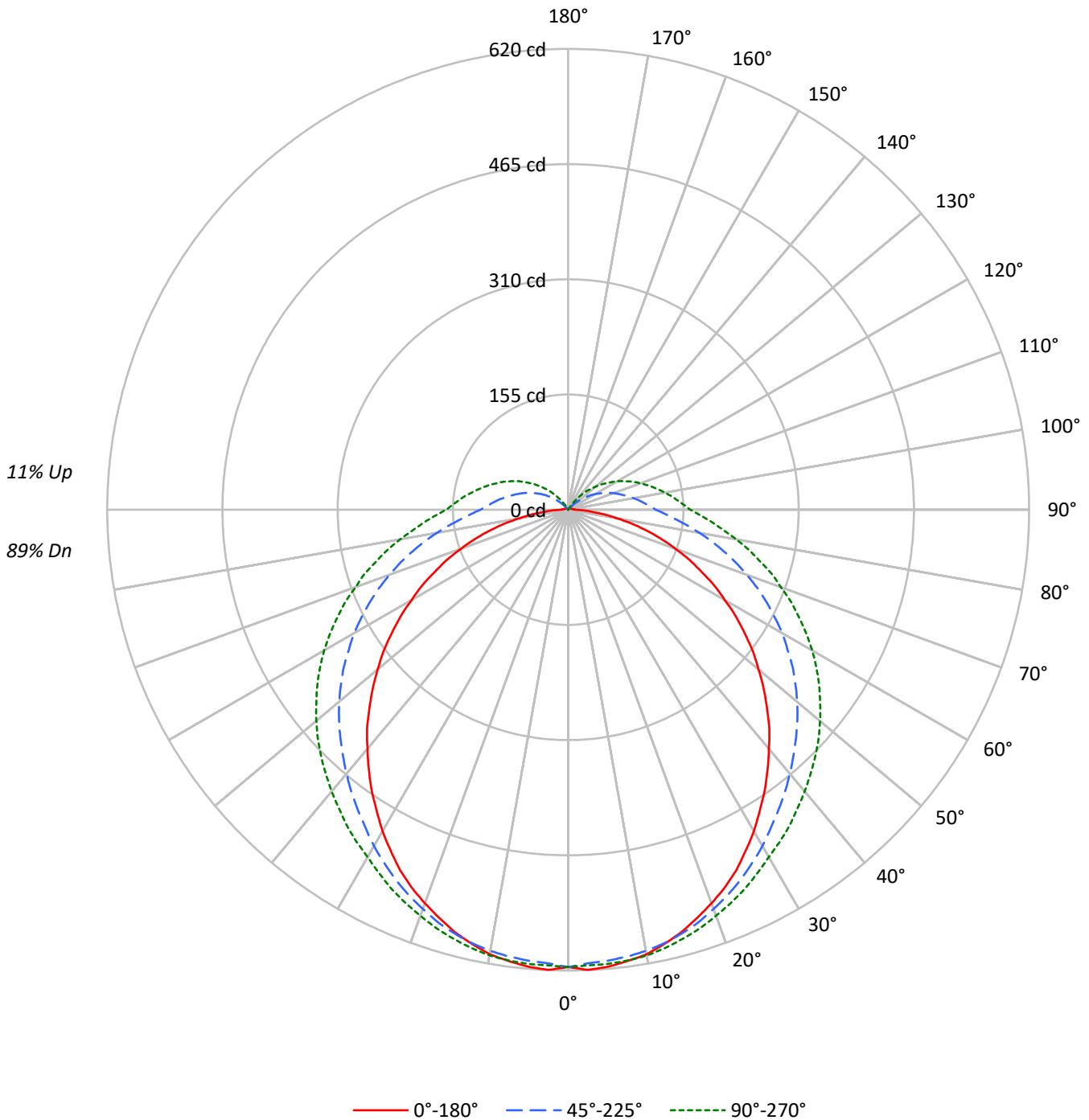
Lumens per Lamp: N/A
Luminaire Lumens: 2347.7 lumens
Efficiency: N/A
Efficacy: 88.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

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

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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	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°	11720	11720	11720
5°	11777	11232	11172
10°	11702	10857	10701
15°	11539	10465	10216
20°	11336	10052	9756
25°	11132	9657	9338
30°	10849	9252	8922
35°	10561	8864	8620
40°	10258	8529	8318
45°	9971	8226	8055
50°	9662	7947	7797
55°	9337	7650	7534
60°	8939	7340	7256
65°	8531	6985	6935
70°	8067	6600	6590
75°	7474	6218	6263
80°	6541	5820	5929
85°	5631	5452	5641

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9971 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.3	2.5
10°-20°	167.3	7.1
20°-30°	253.5	10.8
30°-40°	308.7	13.1
40°-50°	332.1	14.1
50°-60°	322.5	13.7
60°-70°	281.7	12.0
70°-80°	216.8	9.2
80°-90°	145.2	6.2
90°-100°	100.2	4.3
100°-110°	73.2	3.1
110°-120°	48.3	2.1
120°-130°	26.9	1.1
130°-140°	11.3	0.5
140°-150°	1.9	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	479.1	20.4
0°-40°	787.7	33.6
0°-60°	1442.4	61.4
0°-90°	2086.0	88.9
90°-120°	221.6	9.4
90°-150°	261.8	11.1
90°-180°	262.0	11.2
0°-180°	2347.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	615	615	615	615	615	
5°	617	614	609	614	614	59
15°	588	590	590	598	597	166
25°	535	541	549	560	563	246
35°	461	476	493	513	519	288
45°	378	402	433	461	470	292
55°	290	322	368	400	412	259
65°	198	242	294	331	342	197
75°	110	160	217	255	267	116
85°	32	87	144	182	194	34
90°	9	61	118	153	164	6
95°	7	49	102	136	147	6
105°	4	30	77	108	118	5
115°	4	13	54	80	90	3
125°	2	2	30	54	62	2
135°	1	1	10	28	36	1
145°	0	0	0	5	10	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°	615.3	615.3	615.3	615.3	615.3
2.5°	619.7	617.1	610.8	615.3	613.5
5°	617.1	614.4	609.0	614.4	613.5
7.5°	612.6	610.8	606.4	612.6	611.7
10°	607.3	605.5	602.8	609.9	609.0
12.5°	598.3	599.2	597.4	604.6	603.7
15°	588.5	590.3	590.3	598.3	597.4
17.5°	576.0	579.6	582.3	590.3	590.3
20°	563.6	568.0	571.6	581.4	581.4
22.5°	550.2	555.5	560.9	570.7	572.5
25°	535.0	541.3	549.3	560.0	562.7
27.5°	517.2	527.0	535.9	549.3	551.1
30°	499.4	511.0	522.5	536.8	539.5
32.5°	479.7	493.1	507.4	524.3	529.7
35°	461.0	476.2	493.1	512.7	519.0
37.5°	440.5	457.4	478.8	500.3	506.5
40°	420.0	439.6	463.7	486.9	494.9
42.5°	400.4	420.0	448.5	474.4	482.4
45°	378.1	402.2	433.4	461.0	469.9
47.5°	356.7	382.5	418.2	446.7	456.6
50°	334.4	362.0	402.2	432.5	442.3
52.5°	313.0	342.4	385.2	416.4	427.1
55°	289.8	321.9	368.3	400.4	412.0
57.5°	267.5	303.2	349.6	384.3	395.9
60°	243.4	281.8	332.6	366.5	379.0
62.5°	222.0	262.2	313.0	349.6	361.1
65°	198.0	241.7	294.3	330.8	342.4
67.5°	176.6	222.0	275.5	312.1	324.6
70°	153.4	199.7	255.0	293.4	304.1
72.5°	132.0	180.1	236.3	273.8	287.1
75°	109.7	159.6	216.7	255.0	266.6
77.5°	88.3	140.0	198.0	236.3	248.8
80°	66.9	121.3	179.2	216.7	229.2
82.5°	49.0	102.5	161.4	198.9	210.4
85°	32.1	87.4	144.5	181.9	194.4
87.5°	19.6	73.1	130.2	166.8	178.3
90°	8.9	60.6	117.7	153.4	164.1
92.5°	8.0	55.3	109.7	144.5	155.2
95°	7.1	49.0	102.5	136.4	147.1
97.5°	6.2	44.6	96.3	129.3	140.0
100°	6.2	39.2	89.2	122.2	132.0
102.5°	5.4	34.8	82.9	115.0	124.8
105°	4.5	30.3	76.7	107.9	117.7
107.5°	4.5	25.9	70.4	100.8	110.6
110°	3.6	21.4	65.1	93.6	103.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.6	17.8	58.9	87.4	97.2
115°	3.6	13.4	53.5	80.3	90.1
117.5°	2.7	9.8	47.3	74.0	82.9
120°	2.7	6.2	41.9	66.9	76.7
122.5°	2.7	3.6	36.6	60.6	68.7
125°	1.8	1.8	30.3	54.4	62.4
127.5°	1.8	0.9	25.0	47.3	55.3
130°	1.8	0.9	19.6	41.0	48.2
132.5°	1.8	0.9	14.3	34.8	41.9
135°	0.9	0.9	9.8	28.5	35.7
137.5°	0.9	0.9	5.4	22.3	28.5
140°	0.9	0.0	1.8	16.1	21.4
142.5°	0.9	0.0	0.0	10.7	15.2
145°	0.0	0.0	0.0	5.4	9.8
147.5°	0.0	0.0	0.0	0.9	3.6
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	16.77	18.25	17.30	18.78	19.36	19.83	21.31	20.36	21.84	22.42
	3H	18.27	19.63	18.81	20.16	20.78	22.46	23.81	23.00	24.35	24.97
	4H	18.77	20.06	19.33	20.61	21.24	23.74	25.03	24.30	25.58	26.21
	6H	19.09	20.29	19.66	20.85	21.50	25.07	26.27	25.64	26.84	27.48
	8H	19.16	20.31	19.75	20.90	21.55	25.75	26.90	26.34	27.49	28.14
	12H	19.20	20.30	19.79	20.89	21.57	26.51	27.61	27.10	28.19	28.87
4H	2H	17.88	19.17	18.44	19.72	20.35	20.22	21.51	20.78	22.06	22.69
	3H	19.64	20.74	20.21	21.33	21.98	23.06	24.17	23.64	24.76	25.41
	4H	20.28	21.30	20.87	21.90	22.58	24.51	25.52	25.10	26.12	26.80
	6H	20.73	21.63	21.34	22.26	22.95	26.01	26.91	26.62	27.54	28.23
	8H	20.86	21.70	21.47	22.33	23.03	26.79	27.63	27.41	28.26	28.97
	12H	20.93	21.70	21.57	22.35	23.07	27.66	28.43	28.30	29.08	29.79
8H	4H	21.13	21.97	21.74	22.59	23.30	24.70	25.54	25.32	26.17	26.88
	6H	21.79	22.50	22.43	23.17	23.88	26.36	27.08	27.01	27.75	28.46
	8H	22.02	22.67	22.68	23.34	24.06	27.27	27.91	27.92	28.59	29.31
	12H	22.18	22.76	22.84	23.43	24.21	28.30	28.88	28.96	29.54	30.33
12H	4H	21.36	22.12	21.99	22.78	23.49	24.71	25.47	25.34	26.13	26.84
	6H	22.13	22.78	22.79	23.45	24.18	26.39	27.04	27.05	27.72	28.44
	8H	22.47	23.05	23.13	23.71	24.50	27.36	27.94	28.02	28.60	29.39