

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: P242351

Luminaire Tested: S122DRP-S865D940-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242351
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-S865D940-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

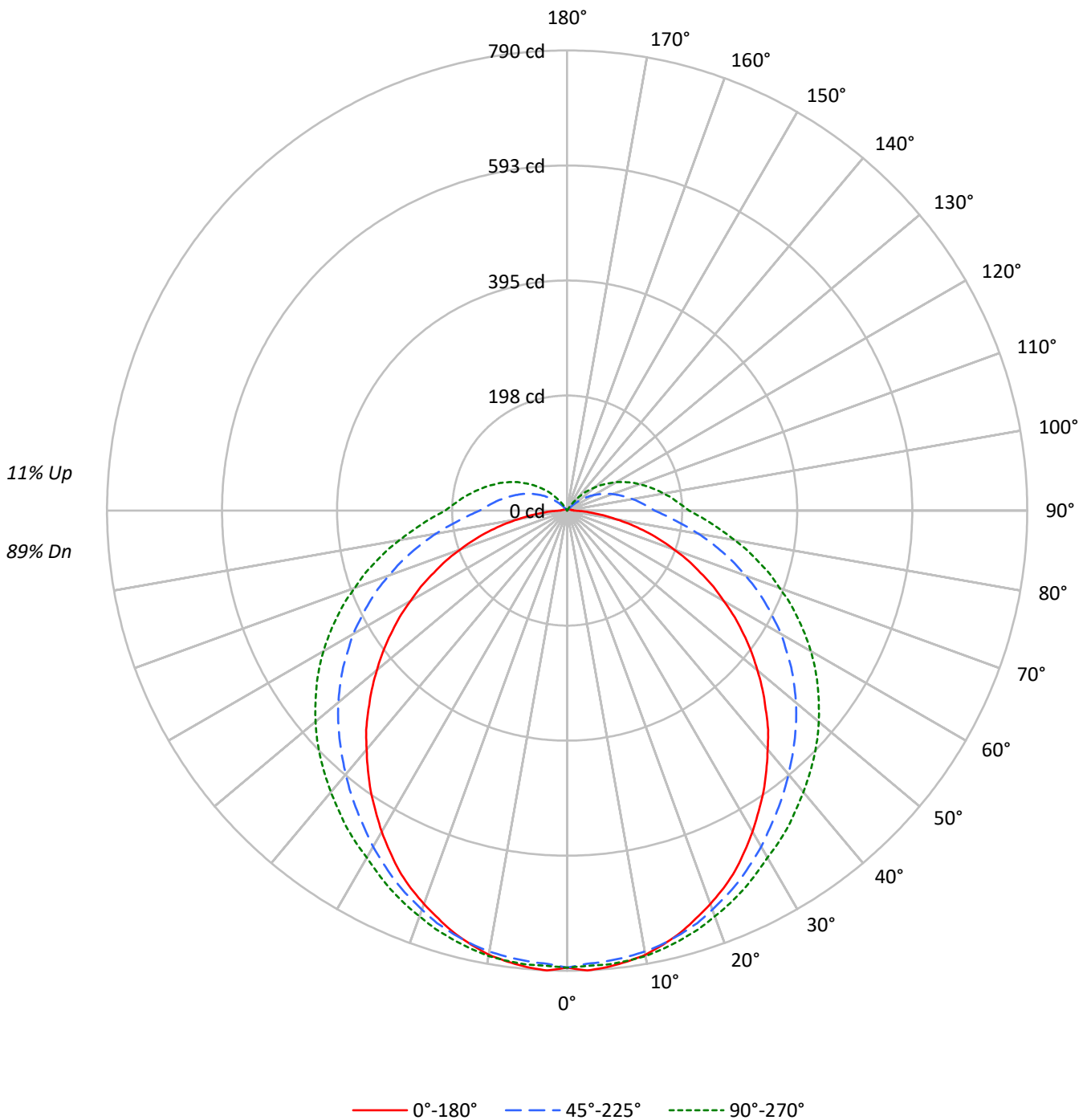
Lumens per Lamp: N/A
Luminaire Lumens: 2993.9 lumens
Efficiency: N/A
Efficacy: 86.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 34.8
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°	14945	14945	14945
5°	15018	14325	14248
10°	14922	13844	13648
15°	14715	13346	13029
20°	14455	12819	12441
25°	14197	12315	11907
30°	13834	11801	11378
35°	13468	11303	10991
40°	13082	10876	10607
45°	12716	10490	10273
50°	12320	10135	9942
55°	11908	9754	9608
60°	11400	9362	9253
65°	10874	8907	8844
70°	10286	8416	8404
75°	9531	7929	7988
80°	8340	7424	7558
85°	7175	6950	7194

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12716 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.4	2.5
10°-20°	213.3	7.1
20°-30°	323.2	10.8
30°-40°	393.6	13.1
40°-50°	423.5	14.1
50°-60°	411.3	13.7
60°-70°	359.2	12.0
70°-80°	276.4	9.2
80°-90°	185.1	6.2
90°-100°	127.7	4.3
100°-110°	93.3	3.1
110°-120°	61.6	2.1
120°-130°	34.3	1.1
130°-140°	14.4	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°	611.0	20.4
0°-40°	1004.6	33.6
0°-60°	1839.4	61.4
0°-90°	2660.1	88.9
90°-120°	282.6	9.4
90°-150°	333.7	11.1
90°-180°	334.0	11.2
0°-180°	2993.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	785	785	785	785	785	
5°	787	784	777	784	782	75
15°	750	753	753	763	762	211
25°	682	690	700	714	718	314
35°	588	607	629	654	662	367
45°	482	513	553	588	599	372
55°	370	410	470	511	525	331
65°	252	308	375	422	437	251
75°	140	204	276	325	340	148
85°	41	111	184	232	248	43
90°	11	77	150	196	209	8
95°	9	62	131	174	188	7
105°	6	39	98	138	150	6
115°	4	17	68	102	115	4
125°	2	2	39	69	80	2
135°	1	1	12	36	46	1
145°	0	0	0	7	12	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°	784.6	784.6	784.6	784.6	784.6
2.5°	790.3	786.9	778.9	784.6	782.4
5°	786.9	783.5	776.7	783.5	782.4
7.5°	781.2	778.9	773.3	781.2	780.1
10°	774.4	772.1	768.7	777.8	776.7
12.5°	763.0	764.2	761.9	771.0	769.9
15°	750.5	752.8	752.8	763.0	761.9
17.5°	734.6	739.1	742.6	752.8	752.8
20°	718.7	724.4	728.9	741.4	741.4
22.5°	701.6	708.4	715.3	727.8	730.1
25°	682.3	690.3	700.5	714.1	717.5
27.5°	659.5	672.1	683.4	700.5	702.8
30°	636.8	651.6	666.4	684.6	688.0
32.5°	611.8	628.8	647.0	668.6	675.5
35°	587.9	607.2	628.8	653.9	661.8
37.5°	561.8	583.4	610.7	637.9	645.9
40°	535.6	560.6	591.3	620.9	631.1
42.5°	510.6	535.6	572.0	605.0	615.2
45°	482.2	512.9	552.7	587.9	599.3
47.5°	454.9	487.8	533.3	569.7	582.2
50°	426.4	461.7	512.9	551.5	564.0
52.5°	399.1	436.7	491.2	531.0	544.7
55°	369.6	410.5	469.6	510.6	525.4
57.5°	341.1	386.6	445.8	490.1	504.9
60°	310.4	359.3	424.2	467.4	483.3
62.5°	283.2	334.3	399.1	445.8	460.5
65°	252.4	308.2	375.3	421.9	436.7
67.5°	225.2	283.2	351.4	398.0	413.9
70°	195.6	254.7	325.2	374.1	387.8
72.5°	168.3	229.7	301.3	349.1	366.2
75°	139.9	203.6	276.3	325.2	340.0
77.5°	112.6	178.5	252.4	301.3	317.3
80°	85.3	154.7	228.6	276.3	292.2
82.5°	62.5	130.8	205.8	253.6	268.4
85°	40.9	111.4	184.2	232.0	247.9
87.5°	25.0	93.2	166.0	212.6	227.4
90°	11.4	77.3	150.1	195.6	209.2
92.5°	10.2	70.5	139.9	184.2	197.9
95°	9.1	62.5	130.8	174.0	187.6
97.5°	8.0	56.9	122.8	164.9	178.5
100°	8.0	50.0	113.7	155.8	168.3
102.5°	6.8	44.3	105.8	146.7	159.2
105°	5.7	38.7	97.8	137.6	150.1
107.5°	5.7	33.0	89.8	128.5	141.0
110°	4.5	27.3	83.0	119.4	131.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.5	22.7	75.1	111.4	123.9
115°	4.5	17.1	68.2	102.3	114.9
117.5°	3.4	12.5	60.3	94.4	105.8
120°	3.4	8.0	53.4	85.3	97.8
122.5°	3.4	4.5	46.6	77.3	87.6
125°	2.3	2.3	38.7	69.4	79.6
127.5°	2.3	1.1	31.8	60.3	70.5
130°	2.3	1.1	25.0	52.3	61.4
132.5°	2.3	1.1	18.2	44.3	53.4
135°	1.1	1.1	12.5	36.4	45.5
137.5°	1.1	1.1	6.8	28.4	36.4
140°	1.1	0.0	2.3	20.5	27.3
142.5°	1.1	0.0	0.0	13.6	19.3
145°	0.0	0.0	0.0	6.8	12.5
147.5°	0.0	0.0	0.0	1.1	4.5
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	17.62	19.10	18.14	19.62	20.20	20.68	22.16	21.20	22.69	23.26
	3H	19.12	20.47	19.65	21.01	21.62	23.31	24.66	23.84	25.20	25.81
	4H	19.62	20.90	20.17	21.46	22.08	24.59	25.87	25.14	26.42	27.05
	6H	19.93	21.13	20.50	21.70	22.34	25.92	27.12	26.49	27.68	28.33
	8H	20.01	21.16	20.59	21.75	22.40	26.60	27.75	27.18	28.34	28.99
	12H	20.04	21.15	20.63	21.73	22.41	27.35	28.46	27.94	29.04	29.72
4H	2H	18.73	20.01	19.29	20.56	21.19	21.07	22.35	21.63	22.91	23.54
	3H	20.48	21.58	21.05	22.18	22.83	23.91	25.01	24.48	25.60	26.25
	4H	21.13	22.14	21.72	22.74	23.42	25.35	26.36	25.94	26.96	27.64
	6H	21.58	22.47	22.19	23.10	23.79	26.86	27.75	27.47	28.38	29.07
	8H	21.70	22.55	22.32	23.17	23.88	27.64	28.48	28.25	29.11	29.81
	12H	21.78	22.55	22.42	23.20	23.91	28.50	29.27	29.14	29.92	30.64
8H	4H	21.97	22.81	22.58	23.44	24.14	25.55	26.39	26.16	27.01	27.72
	6H	22.63	23.35	23.28	24.01	24.73	27.21	27.92	27.85	28.59	29.30
	8H	22.86	23.51	23.52	24.18	24.91	28.11	28.76	28.77	29.43	30.16
	12H	23.03	23.61	23.69	24.27	25.06	29.14	29.72	29.80	30.39	31.17
12H	4H	22.20	22.97	22.84	23.62	24.33	25.55	26.32	26.19	26.97	27.68
	6H	22.97	23.62	23.63	24.30	25.02	27.24	27.89	27.90	28.56	29.29
	8H	23.31	23.89	23.97	24.55	25.34	28.21	28.79	28.87	29.45	30.23