

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: P242341

Luminaire Tested: S122DRP-S865D930-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242341
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-S865D930-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

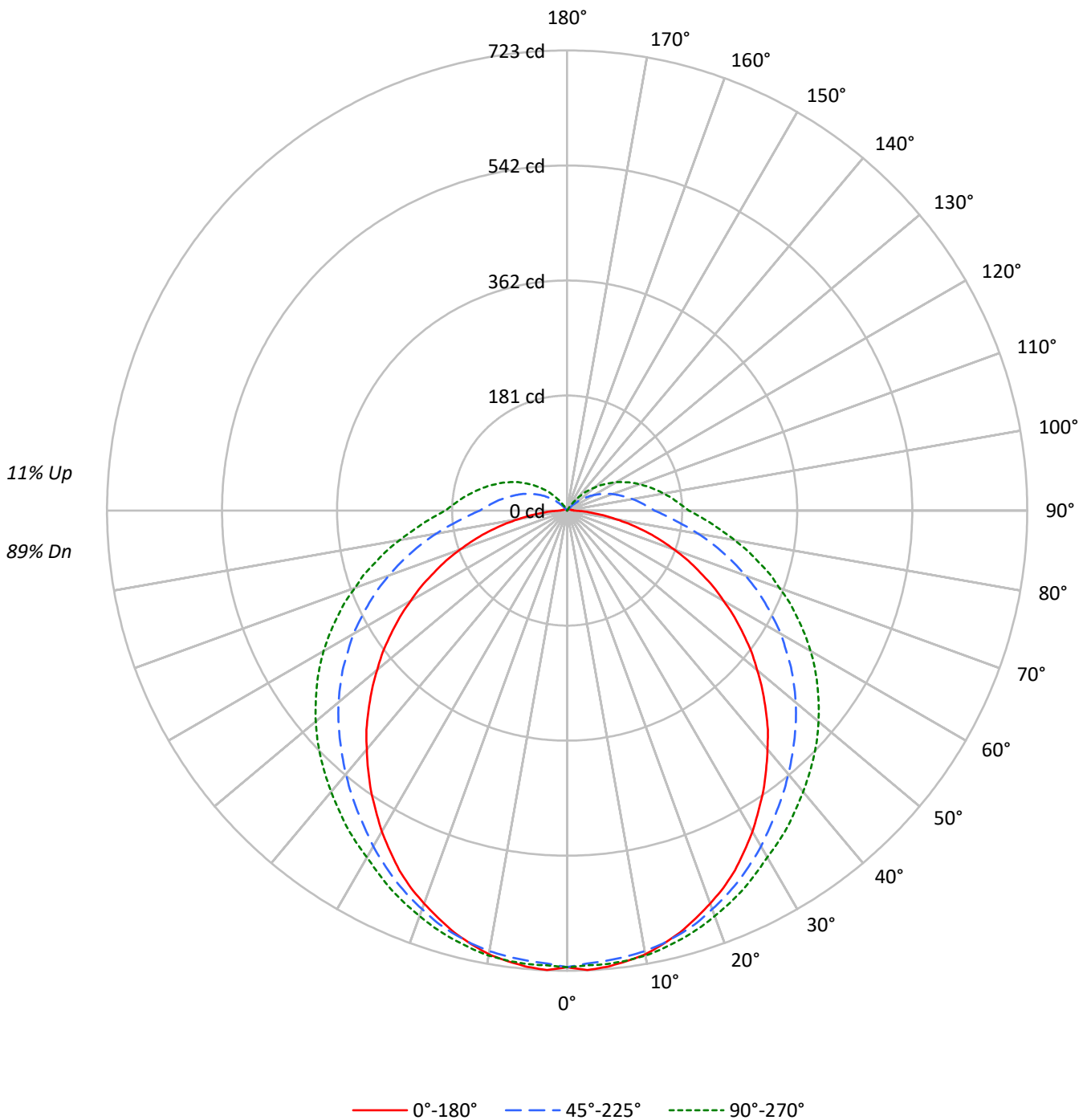
Lumens per Lamp: N/A
Luminaire Lumens: 2737.3 lumens
Efficiency: N/A
Efficacy: 78.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 34.8
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	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°	13665	13665	13665
5°	13731	13097	13026
10°	13642	12658	12477
15°	13454	12202	11913
20°	13216	11721	11375
25°	12980	11260	10888
30°	12648	10790	10403
35°	12313	10336	10050
40°	11961	9944	9697
45°	11624	9591	9392
50°	11265	9265	9091
55°	10887	8919	8783
60°	10423	8559	8461
65°	9944	8143	8085
70°	9402	7697	7682
75°	8713	7249	7304
80°	7626	6787	6912
85°	6561	6354	6579

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11624 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.0	2.5
10°-20°	195.1	7.1
20°-30°	295.5	10.8
30°-40°	359.9	13.1
40°-50°	387.2	14.1
50°-60°	376.0	13.7
60°-70°	328.4	12.0
70°-80°	252.7	9.2
80°-90°	169.3	6.2
90°-100°	116.8	4.3
100°-110°	85.3	3.1
110°-120°	56.3	2.1
120°-130°	31.4	1.1
130°-140°	13.2	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°	558.6	20.4
0°-40°	918.5	33.6
0°-60°	1681.7	61.4
0°-90°	2432.2	88.9
90°-120°	258.4	9.4
90°-150°	305.2	11.1
90°-180°	305.0	11.1
0°-180°	2737.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	717	717	717	717	717	
5°	720	716	710	716	715	68
15°	686	688	688	698	697	193
25°	624	631	640	653	656	287
35°	538	555	575	598	605	336
45°	441	469	505	538	548	340
55°	338	375	429	467	480	302
65°	231	282	343	386	399	229
75°	128	186	253	297	311	135
85°	37	102	168	212	227	39
90°	10	71	137	179	191	7
95°	8	57	120	159	172	7
105°	5	35	89	126	137	6
115°	4	16	62	94	105	4
125°	2	2	35	63	73	2
135°	1	1	11	33	42	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°	717.4	717.4	717.4	717.4	717.4
2.5°	722.6	719.5	712.2	717.4	715.3
5°	719.5	716.4	710.1	716.4	715.3
7.5°	714.3	712.2	707.0	714.3	713.2
10°	708.0	706.0	702.8	711.2	710.1
12.5°	697.6	698.7	696.6	704.9	703.9
15°	686.2	688.3	688.3	697.6	696.6
17.5°	671.7	675.8	678.9	688.3	688.3
20°	657.1	662.3	666.5	677.9	677.9
22.5°	641.5	647.7	654.0	665.4	667.5
25°	623.8	631.1	640.5	652.9	656.1
27.5°	603.0	614.5	624.9	640.5	642.5
30°	582.2	595.8	609.3	625.9	629.0
32.5°	559.4	575.0	591.6	611.3	617.6
35°	537.5	555.2	575.0	597.8	605.1
37.5°	513.6	533.4	558.3	583.3	590.6
40°	489.7	512.6	540.6	567.7	577.0
42.5°	466.8	489.7	523.0	553.1	562.5
45°	440.8	468.9	505.3	537.5	547.9
47.5°	415.9	446.0	487.6	520.9	532.3
50°	389.9	422.1	468.9	504.3	515.7
52.5°	364.9	399.2	449.2	485.5	498.0
55°	337.9	375.3	429.4	466.8	480.3
57.5°	311.9	353.5	407.6	448.1	461.6
60°	283.8	328.5	387.8	427.3	441.9
62.5°	258.9	305.7	364.9	407.6	421.1
65°	230.8	281.8	343.1	385.7	399.2
67.5°	205.9	258.9	321.3	363.9	378.5
70°	178.8	232.9	297.4	342.1	354.5
72.5°	153.9	210.0	275.5	319.2	334.8
75°	127.9	186.1	252.6	297.4	310.9
77.5°	102.9	163.2	230.8	275.5	290.1
80°	78.0	141.4	209.0	252.6	267.2
82.5°	57.2	119.6	188.2	231.9	245.4
85°	37.4	101.9	168.4	212.1	226.7
87.5°	22.9	85.3	151.8	194.4	207.9
90°	10.4	70.7	137.2	178.8	191.3
92.5°	9.4	64.5	127.9	168.4	180.9
95°	8.3	57.2	119.6	159.1	171.6
97.5°	7.3	52.0	112.3	150.8	163.2
100°	7.3	45.7	104.0	142.4	153.9
102.5°	6.2	40.5	96.7	134.1	145.6
105°	5.2	35.4	89.4	125.8	137.2
107.5°	5.2	30.2	82.1	117.5	128.9
110°	4.2	25.0	75.9	109.2	120.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.2	20.8	68.6	101.9	113.3
115°	4.2	15.6	62.4	93.6	105.0
117.5°	3.1	11.4	55.1	86.3	96.7
120°	3.1	7.3	48.9	78.0	89.4
122.5°	3.1	4.2	42.6	70.7	80.1
125°	2.1	2.1	35.4	63.4	72.8
127.5°	2.1	1.0	29.1	55.1	64.5
130°	2.1	1.0	22.9	47.8	56.1
132.5°	2.1	1.0	16.6	40.5	48.9
135°	1.0	1.0	11.4	33.3	41.6
137.5°	1.0	1.0	6.2	26.0	33.3
140°	1.0	0.0	2.1	18.7	25.0
142.5°	1.0	0.0	0.0	12.5	17.7
145°	0.0	0.0	0.0	6.2	11.4
147.5°	0.0	0.0	0.0	1.0	4.2
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	17.30	18.79	17.83	19.31	19.89	20.37	21.85	20.89	22.38	22.95
	3H	18.81	20.16	19.34	20.70	21.31	22.99	24.35	23.53	24.89	25.50
	4H	19.31	20.59	19.86	21.14	21.77	24.27	25.56	24.83	26.11	26.74
	6H	19.62	20.82	20.19	21.38	22.03	25.61	26.81	26.18	27.37	28.01
	8H	19.70	20.85	20.28	21.43	22.08	26.29	27.44	26.87	28.02	28.67
	12H	19.73	20.84	20.32	21.42	22.10	27.04	28.14	27.63	28.73	29.41
4H	2H	18.41	19.70	18.97	20.25	20.88	20.76	22.04	21.32	22.60	23.22
	3H	20.17	21.27	20.74	21.87	22.52	23.60	24.70	24.17	25.29	25.94
	4H	20.82	21.83	21.41	22.43	23.11	25.04	26.05	25.63	26.65	27.33
	6H	21.27	22.16	21.88	22.79	23.48	26.55	27.44	27.16	28.07	28.76
	8H	21.39	22.24	22.01	22.86	23.57	27.33	28.17	27.94	28.79	29.50
	12H	21.47	22.24	22.10	22.89	23.60	28.19	28.96	28.83	29.61	30.33
8H	4H	21.66	22.50	22.27	23.13	23.83	25.23	26.08	25.85	26.70	27.41
	6H	22.32	23.04	22.97	23.70	24.41	26.90	27.61	27.54	28.28	28.99
	8H	22.55	23.20	23.21	23.87	24.60	27.80	28.45	28.46	29.12	29.84
	12H	22.72	23.30	23.38	23.96	24.75	28.83	29.41	29.49	30.08	30.86
12H	4H	21.89	22.66	22.53	23.31	24.02	25.24	26.01	25.88	26.66	27.37
	6H	22.66	23.31	23.32	23.99	24.71	26.93	27.58	27.59	28.25	28.97
	8H	23.00	23.58	23.66	24.24	25.03	27.89	28.47	28.56	29.14	29.92