

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P242174

Luminaire Tested: **S121DR-S880D935-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242174
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-13)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121DR-S880D935-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3000.3 lumens
Efficiency: N/A
Efficacy: 86.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

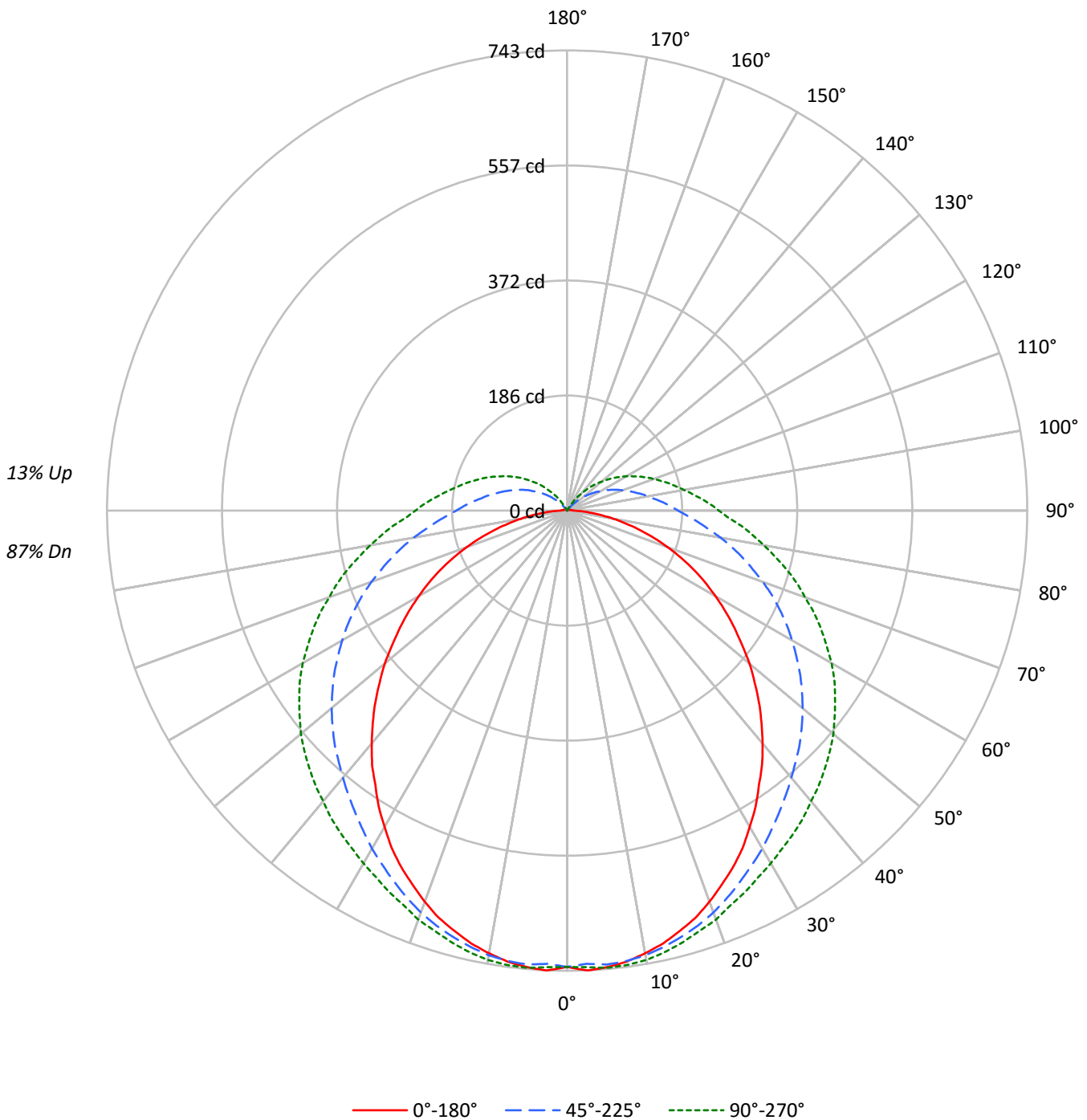
Input Watts (W): 34.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	97	97	97	90	90	90	87
1	103	97	92	87	99	94	89	84	87	83	79	81	77	75	75	72	70	67
2	93	83	75	69	89	80	73	67	74	68	63	69	64	60	64	60	57	54
3	84	72	63	56	80	70	61	55	65	58	52	60	54	49	56	51	47	44
4	76	63	54	47	73	61	53	46	57	50	44	53	47	42	49	44	40	37
5	70	56	47	40	67	54	46	39	51	43	37	47	41	36	44	39	34	32
6	65	51	41	34	62	49	40	34	46	38	32	43	36	31	40	34	30	27
7	60	46	37	30	57	44	36	30	41	34	28	39	32	27	36	31	26	24
8	55	42	33	27	53	40	32	26	38	31	25	36	29	24	33	28	23	21
9	52	38	30	24	50	37	29	23	35	28	23	33	26	22	31	25	21	19
10	48	35	27	22	47	34	26	21	32	25	20	30	24	20	29	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	21828	21828	21828
5°	21968	20715	20452
10°	21755	19700	19162
15°	21432	18643	17872
20°	21024	17642	16741
25°	20541	16621	15710
30°	19925	15719	14871
35°	19250	14865	14198
40°	18647	14147	13574
45°	17971	13547	13055
50°	17272	12946	12560
55°	16509	12354	12021
60°	15808	11751	11504
65°	15086	11156	10914
70°	14102	10514	10281
75°	12918	9865	9724
80°	11528	9224	9118
85°	9879	8619	8597



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.3	2.3
10°-20°	201.7	6.7
20°-30°	305.0	10.2
30°-40°	373.0	12.4
40°-50°	404.9	13.5
50°-60°	399.5	13.3
60°-70°	358.6	12.0
70°-80°	288.6	9.6
80°-90°	208.4	6.9
90°-100°	149.0	5.0
100°-110°	106.7	3.6
110°-120°	71.1	2.4
120°-130°	40.9	1.4
130°-140°	18.5	0.6
140°-150°	4.0	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	577.1	19.2
0°-40°	950.1	31.7
0°-60°	1754.5	58.5
0°-90°	2610.1	87.0
90°-120°	326.8	10.9
90°-150°	390.1	13.0
90°-180°	390.0	13.0
0°-180°	3000.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	737	737	737	737	737	
5°	740	739	736	742	741	70
15°	703	713	713	722	721	198
25°	635	651	661	676	680	292
35°	540	570	596	626	637	339
45°	438	478	531	574	588	338
55°	329	386	459	512	528	295
65°	225	296	379	435	452	223
75°	122	204	293	349	367	129
85°	36	123	212	266	282	38
90°	10	92	179	230	245	7
95°	8	74	155	204	217	6
105°	4	44	113	157	170	5
115°	3	22	79	118	130	3
125°	2	3	48	81	92	2
135°	1	1	19	46	55	1
145°	0	0	0	13	19	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°	736.7	736.7	736.7	736.7	736.7
2.5°	743.3	740.0	732.4	740.0	737.8
5°	740.0	738.9	735.7	742.2	741.1
7.5°	734.6	736.7	733.5	742.2	740.0
10°	725.8	731.3	729.1	737.8	736.7
12.5°	715.9	722.5	721.4	731.3	730.2
15°	702.7	712.6	712.6	722.5	721.4
17.5°	689.5	699.4	702.7	713.7	711.5
20°	672.0	685.1	690.6	700.5	702.7
22.5°	653.3	669.8	676.4	688.4	689.5
25°	634.6	651.1	661.0	676.4	679.7
27.5°	613.8	632.4	645.6	663.2	667.6
30°	589.6	612.7	630.2	650.0	657.7
32.5°	566.6	591.8	612.7	639.0	646.7
35°	540.2	569.9	596.2	625.9	636.8
37.5°	517.2	547.9	579.7	613.8	625.9
40°	490.8	523.7	563.3	600.6	612.7
42.5°	464.4	501.8	546.8	588.5	601.7
45°	438.1	477.6	531.4	574.2	588.5
47.5°	410.6	455.7	513.9	560.0	575.3
50°	384.3	432.6	496.3	544.6	561.1
52.5°	355.7	409.5	477.6	528.1	544.6
55°	329.4	386.5	459.0	511.7	528.1
57.5°	303.0	363.4	439.2	493.0	511.7
60°	276.7	340.4	419.4	474.3	493.0
62.5°	251.4	318.4	399.7	455.7	472.1
65°	225.1	296.5	378.8	434.8	452.4
67.5°	198.7	273.4	357.9	413.9	431.5
70°	172.4	249.2	336.0	393.1	408.5
72.5°	147.1	227.3	314.0	372.2	388.7
75°	121.9	204.2	293.2	349.2	366.7
77.5°	97.7	182.3	272.3	328.3	343.7
80°	75.8	160.3	251.4	307.4	322.8
82.5°	54.9	141.6	230.6	285.5	301.9
85°	36.2	123.0	211.9	265.7	282.2
87.5°	22.0	106.5	194.3	247.0	260.2
90°	9.9	92.2	179.0	229.5	244.9
92.5°	8.8	82.3	166.9	217.4	231.7
95°	7.7	73.6	154.8	204.2	217.4
97.5°	6.6	64.8	142.7	191.0	204.2
100°	5.5	57.1	132.9	179.0	192.1
102.5°	5.5	50.5	123.0	166.9	180.1
105°	4.4	43.9	113.1	157.0	170.2
107.5°	4.4	38.4	104.3	147.1	159.2
110°	4.4	32.9	95.5	137.2	149.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.3	27.4	87.8	127.4	139.4
115°	3.3	22.0	79.1	117.5	129.6
117.5°	3.3	16.5	71.4	108.7	119.7
120°	2.2	12.1	62.6	99.9	110.9
122.5°	2.2	7.7	56.0	90.0	101.0
125°	2.2	3.3	48.3	81.3	92.2
127.5°	2.2	1.1	40.6	72.5	82.3
130°	1.1	1.1	34.0	63.7	72.5
132.5°	1.1	1.1	26.4	54.9	64.8
135°	1.1	1.1	18.7	46.1	54.9
137.5°	1.1	0.0	12.1	37.3	45.0
140°	1.1	0.0	6.6	29.6	36.2
142.5°	1.1	0.0	1.1	20.9	28.5
145°	0.0	0.0	0.0	13.2	18.7
147.5°	0.0	0.0	0.0	5.5	11.0
150°	0.0	0.0	0.0	0.0	3.3
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

(END OF REPORT)