

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: P242164

Luminaire Tested: **S121DR-S880D840-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242164
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-S880D840-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3519.0 lumens
Efficiency: N/A
Efficacy: 101.1 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

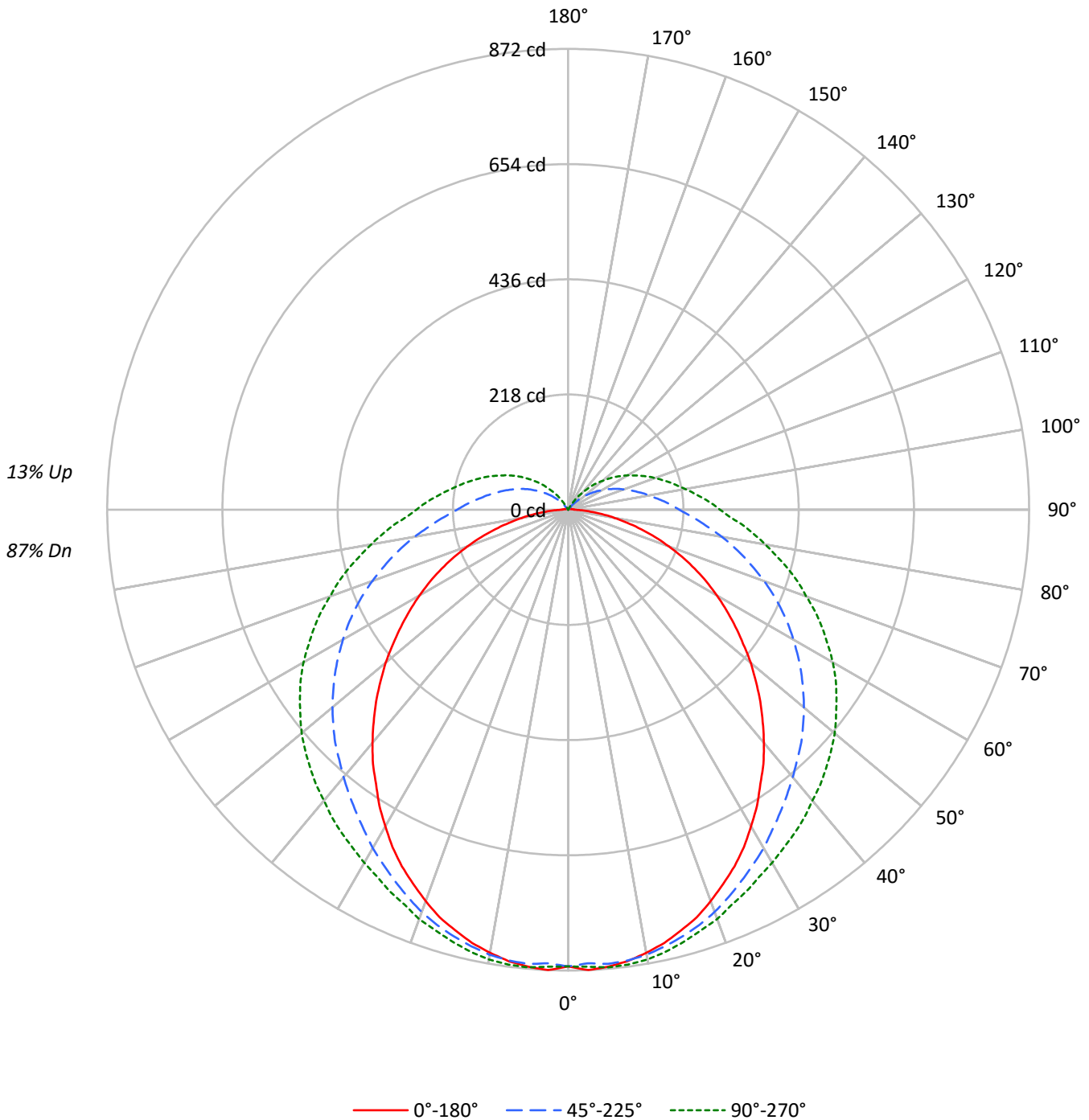
Input Watts (W): 34.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	25603	25603	25603
5°	25768	24294	23990
10°	25516	23105	22475
15°	25137	21866	20962
20°	24657	20692	19636
25°	24095	19495	18426
30°	23372	18438	17442
35°	22578	17436	16652
40°	21873	16593	15921
45°	21076	15890	15314
50°	20256	15184	14731
55°	19361	14488	14099
60°	18539	13783	13492
65°	17693	13086	12801
70°	16540	12332	12058
75°	15144	11568	11405
80°	13520	10820	10694
85°	11598	10112	10083



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.5	2.3
10°-20°	236.6	6.7
20°-30°	357.8	10.2
30°-40°	437.5	12.4
40°-50°	474.9	13.5
50°-60°	468.5	13.3
60°-70°	420.6	12.0
70°-80°	338.5	9.6
80°-90°	244.5	6.9
90°-100°	174.7	5.0
100°-110°	125.1	3.6
110°-120°	83.4	2.4
120°-130°	47.9	1.4
130°-140°	21.7	0.6
140°-150°	4.7	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	676.9	19.2
0°-40°	1114.4	31.7
0°-60°	2057.9	58.5
0°-90°	3061.4	87.0
90°-120°	383.3	10.9
90°-150°	457.6	13.0
90°-180°	458.0	13.0
0°-180°	3519.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	864	864	864	864	864	
5°	868	867	863	871	869	82
15°	824	836	836	847	846	232
25°	744	764	775	793	797	342
35°	634	668	699	734	747	397
45°	514	560	623	674	690	396
55°	386	453	538	600	619	346
65°	264	348	444	510	531	261
75°	143	240	344	410	430	152
85°	42	144	249	312	331	45
90°	12	108	210	269	287	8
95°	9	86	182	240	255	7
105°	5	52	133	184	200	6
115°	4	26	93	138	152	4
125°	3	4	57	95	108	2
135°	1	1	22	54	64	1
145°	0	0	0	16	22	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°	864.1	864.1	864.1	864.1	864.1
2.5°	871.9	868.0	859.0	868.0	865.4
5°	868.0	866.7	862.8	870.6	869.3
7.5°	861.6	864.1	860.3	870.6	868.0
10°	851.3	857.7	855.1	865.4	864.1
12.5°	839.7	847.4	846.1	857.7	856.4
15°	824.2	835.8	835.8	847.4	846.1
17.5°	808.8	820.3	824.2	837.1	834.5
20°	788.1	803.6	810.0	821.6	824.2
22.5°	766.3	785.6	793.3	807.5	808.8
25°	744.4	763.7	775.3	793.3	797.2
27.5°	719.9	741.8	757.2	777.8	783.0
30°	691.6	718.6	739.2	762.4	771.4
32.5°	664.5	694.1	718.6	749.5	758.5
35°	633.6	668.4	699.3	734.1	746.9
37.5°	606.6	642.6	680.0	719.9	734.1
40°	575.7	614.3	660.7	704.4	718.6
42.5°	544.7	588.5	641.3	690.3	705.7
45°	513.8	560.2	623.3	673.5	690.3
47.5°	481.6	534.4	602.7	656.8	674.8
50°	450.7	507.4	582.1	638.8	658.1
52.5°	417.3	480.4	560.2	619.4	638.8
55°	386.3	453.3	538.3	600.1	619.4
57.5°	355.4	426.3	515.1	578.2	600.1
60°	324.5	399.2	491.9	556.3	578.2
62.5°	294.9	373.5	468.8	534.4	553.8
65°	264.0	347.7	444.3	510.0	530.6
67.5°	233.1	320.7	419.8	485.5	506.1
70°	202.2	292.3	394.1	461.0	479.1
72.5°	172.6	266.6	368.3	436.6	455.9
75°	142.9	239.5	343.8	409.5	430.1
77.5°	114.6	213.8	319.4	385.1	403.1
80°	88.9	188.0	294.9	360.6	378.6
82.5°	64.4	166.1	270.4	334.8	354.2
85°	42.5	144.2	248.6	311.7	331.0
87.5°	25.8	124.9	227.9	289.8	305.2
90°	11.6	108.2	209.9	269.2	287.2
92.5°	10.3	96.6	195.7	255.0	271.7
95°	9.0	86.3	181.6	239.5	255.0
97.5°	7.7	76.0	167.4	224.1	239.5
100°	6.4	67.0	155.8	209.9	225.4
102.5°	6.4	59.2	144.2	195.7	211.2
105°	5.2	51.5	132.6	184.2	199.6
107.5°	5.2	45.1	122.3	172.6	186.7
110°	5.2	38.6	112.0	161.0	175.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.9	32.2	103.0	149.4	163.6
115°	3.9	25.8	92.7	137.8	152.0
117.5°	3.9	19.3	83.7	127.5	140.4
120°	2.6	14.2	73.4	117.2	130.1
122.5°	2.6	9.0	65.7	105.6	118.5
125°	2.6	3.9	56.7	95.3	108.2
127.5°	2.6	1.3	47.6	85.0	96.6
130°	1.3	1.3	39.9	74.7	85.0
132.5°	1.3	1.3	30.9	64.4	76.0
135°	1.3	1.3	21.9	54.1	64.4
137.5°	1.3	0.0	14.2	43.8	52.8
140°	1.3	0.0	7.7	34.8	42.5
142.5°	1.3	0.0	1.3	24.5	33.5
145°	0.0	0.0	0.0	15.5	21.9
147.5°	0.0	0.0	0.0	6.4	12.9
150°	0.0	0.0	0.0	0.0	3.9
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)