

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: P243024

Luminaire Tested: **S121DR-H880D840-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243024
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-52)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121DR-H880D840-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3366.1 lumens
Efficiency: N/A
Efficacy: 106.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.43
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

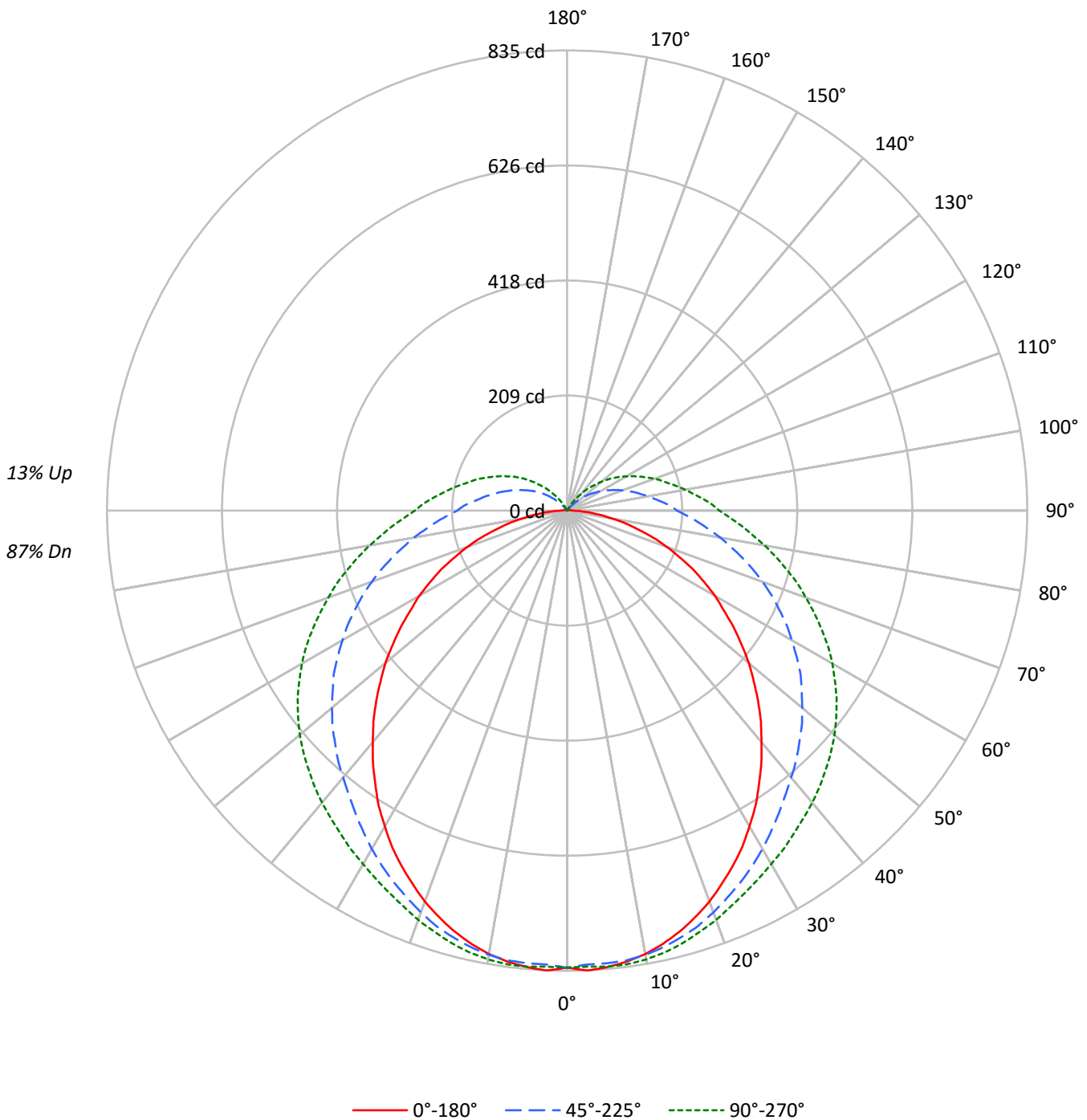
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	78	75	75	72	70	67
2	93	83	75	69	89	80	73	67	74	69	63	69	64	60	64	60	57	54
3	84	72	63	56	80	70	61	55	65	58	52	60	54	50	56	51	47	44
4	76	64	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	29	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	24	35	28	23	33	26	22	31	25	21	19
10	48	35	27	22	47	34	26	21	32	25	21	30	24	20	29	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	24572	24572	24572
5°	24691	23213	22919
10°	24491	22113	21508
15°	24107	20964	20124
20°	23624	19819	18830
25°	23023	18713	17677
30°	22355	17682	16743
35°	21623	16705	15968
40°	20836	15879	15329
45°	20100	15188	14728
50°	19348	14527	14180
55°	18464	13909	13589
60°	17716	13186	12967
65°	16869	12500	12291
70°	15713	11797	11600
75°	14307	11046	10930
80°	12577	10350	10270
85°	10943	9693	9669



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.9	2.3
10°-20°	226.6	6.7
20°-30°	342.8	10.2
30°-40°	419.0	12.4
40°-50°	454.9	13.5
50°-60°	448.9	13.3
60°-70°	402.1	11.9
70°-80°	323.5	9.6
80°-90°	233.8	6.9
90°-100°	167.4	5.0
100°-110°	119.5	3.6
110°-120°	79.1	2.4
120°-130°	45.0	1.3
130°-140°	20.1	0.6
140°-150°	4.3	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	648.4	19.3
0°-40°	1067.4	31.7
0°-60°	1971.2	58.6
0°-90°	2930.6	87.1
90°-120°	366.1	10.9
90°-150°	435.4	12.9
90°-180°	435.0	12.9
0°-180°	3366.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	829	829	829	829	829	
5°	832	829	824	833	830	79
15°	790	799	801	812	812	223
25°	711	730	744	761	765	328
35°	607	638	670	705	716	380
45°	490	536	596	647	664	378
55°	368	430	517	576	597	330
65°	252	330	424	490	510	248
75°	135	227	328	393	412	144
85°	40	136	238	299	317	42
90°	10	102	199	259	276	7
95°	7	82	174	230	247	5
105°	4	49	128	176	191	4
115°	2	23	88	132	146	2
125°	1	2	54	91	103	1
135°	0	0	21	51	61	0
145°	0	0	0	13	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°	829.3	829.3	829.3	829.3	829.3
2.5°	835.4	830.5	824.4	830.5	828.1
5°	831.7	829.3	824.4	832.9	830.5
7.5°	825.6	825.6	823.2	831.7	830.5
10°	817.1	819.6	818.4	828.1	826.9
12.5°	805.0	809.8	811.1	822.0	820.8
15°	790.4	798.9	801.3	812.3	812.3
17.5°	773.4	784.3	790.4	801.3	801.3
20°	755.1	767.3	775.8	789.2	790.4
22.5°	733.2	750.3	760.0	775.8	777.0
25°	711.3	729.6	744.2	761.2	764.8
27.5°	688.2	708.9	727.2	746.6	752.7
30°	661.5	684.6	708.9	732.0	740.5
32.5°	636.0	662.7	689.5	718.6	729.6
35°	606.8	638.4	670.0	705.3	716.2
37.5°	578.8	612.9	650.5	690.7	704.1
40°	548.4	587.3	632.3	677.3	691.9
42.5°	520.4	560.6	615.3	661.5	678.5
45°	490.0	536.2	595.8	646.9	663.9
47.5°	459.6	509.5	577.6	629.9	649.3
50°	430.5	482.7	556.9	614.1	633.5
52.5°	398.8	458.4	536.2	594.6	615.3
55°	368.4	430.5	516.8	576.4	597.0
57.5°	336.8	407.4	493.7	556.9	576.4
60°	310.1	380.6	470.6	535.0	555.7
62.5°	279.7	355.1	448.7	511.9	533.8
65°	251.7	329.5	424.4	490.0	509.5
67.5°	220.1	304.0	401.3	465.7	485.2
70°	192.1	278.5	377.0	441.4	460.9
72.5°	164.2	254.1	352.6	418.3	437.8
75°	135.0	227.4	328.3	392.8	412.2
77.5°	109.4	203.1	304.0	368.4	387.9
80°	82.7	178.7	282.1	345.3	363.6
82.5°	60.8	156.9	259.0	322.2	339.3
85°	40.1	136.2	238.3	299.1	317.4
87.5°	23.1	117.9	217.7	278.5	295.5
90°	9.7	102.1	199.4	259.0	276.0
92.5°	7.3	92.4	188.5	245.6	262.7
95°	7.3	81.5	173.9	229.8	246.8
97.5°	6.1	71.7	160.5	215.2	231.0
100°	4.9	63.2	149.6	201.9	217.7
102.5°	4.9	55.9	137.4	188.5	204.3
105°	3.6	48.6	127.7	176.3	190.9
107.5°	3.6	41.3	116.7	165.4	180.0
110°	2.4	35.3	107.0	154.4	169.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.4	29.2	97.3	143.5	156.9
115°	2.4	23.1	87.6	132.5	145.9
117.5°	1.2	17.0	79.0	121.6	135.0
120°	1.2	12.2	70.5	110.7	124.0
122.5°	1.2	6.1	60.8	100.9	114.3
125°	1.2	2.4	53.5	91.2	103.4
127.5°	0.0	0.0	45.0	80.3	92.4
130°	0.0	0.0	36.5	70.5	81.5
132.5°	0.0	0.0	29.2	60.8	70.5
135°	0.0	0.0	20.7	51.1	60.8
137.5°	0.0	0.0	13.4	41.3	51.1
140°	0.0	0.0	6.1	31.6	40.1
142.5°	0.0	0.0	1.2	23.1	30.4
145°	0.0	0.0	0.0	13.4	21.9
147.5°	0.0	0.0	0.0	4.9	12.2
150°	0.0	0.0	0.0	0.0	3.6
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)