

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: P243017

Luminaire Tested: **S121DR-H305D835-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243017
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-H305D835-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1158.8 lumens
Efficiency: N/A
Efficacy: 103.5 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

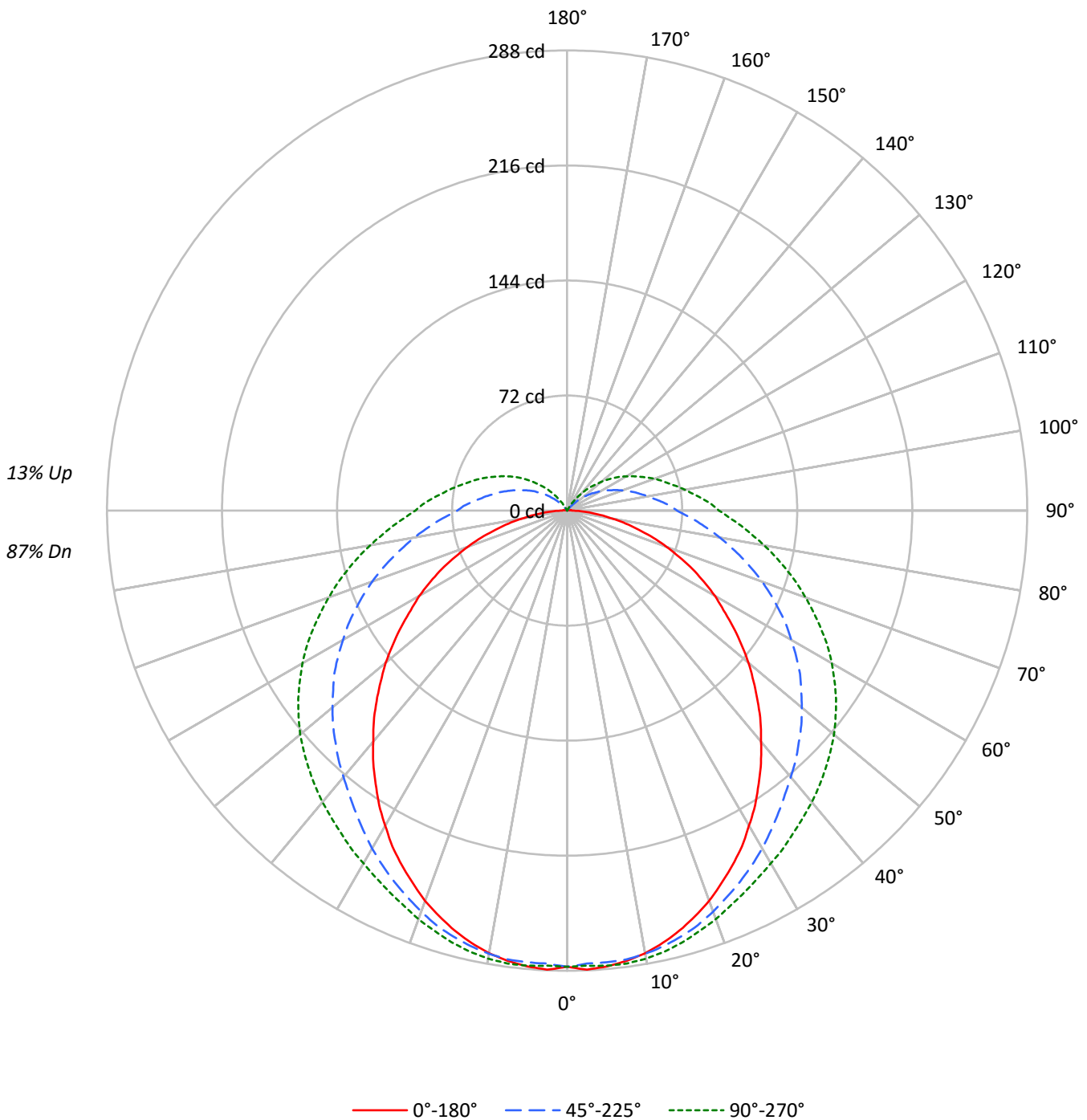
Input Watts (W): 11.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	8459	8459	8459
5°	8499	7991	7890
10°	8431	7612	7405
15°	8299	7218	6927
20°	8134	6823	6482
25°	7927	6442	6086
30°	7695	6089	5763
35°	7444	5752	5498
40°	7173	5467	5277
45°	6920	5229	5071
50°	6661	5000	4882
55°	6355	4788	4678
60°	6102	4539	4464
65°	5811	4303	4231
70°	5407	4062	3994
75°	4928	3802	3763
80°	4334	3563	3536
85°	3766	3340	3330



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	27.2	2.3
10°-20°	78.0	6.7
20°-30°	118.0	10.2
30°-40°	144.3	12.4
40°-50°	156.6	13.5
50°-60°	154.5	13.3
60°-70°	138.4	11.9
70°-80°	111.4	9.6
80°-90°	80.5	6.9
90°-100°	57.6	5.0
100°-110°	41.2	3.6
110°-120°	27.2	2.3
120°-130°	15.5	1.3
130°-140°	6.9	0.6
140°-150°	1.5	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	223.2	19.3
0°-40°	367.5	31.7
0°-60°	678.6	58.6
0°-90°	1008.9	87.1
90°-120°	126.0	10.9
90°-150°	149.9	12.9
90°-180°	150.0	12.9
0°-180°	1158.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	286	286	286	286	286	
5°	286	286	284	287	286	27
15°	272	275	276	280	280	77
25°	245	251	256	262	263	113
35°	209	220	231	243	247	131
45°	169	185	205	223	229	130
55°	127	148	178	198	206	113
65°	87	113	146	169	175	85
75°	46	78	113	135	142	50
85°	14	47	82	103	109	14
90°	3	35	69	89	95	2
95°	2	28	60	79	85	2
105°	1	17	44	61	66	1
115°	1	8	30	46	50	1
125°	0	1	18	31	36	0
135°	0	0	7	18	21	0
145°	0	0	0	5	8	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°	285.5	285.5	285.5	285.5	285.5
2.5°	287.6	285.9	283.8	285.9	285.1
5°	286.3	285.5	283.8	286.8	285.9
7.5°	284.3	284.3	283.4	286.3	285.9
10°	281.3	282.2	281.7	285.1	284.7
12.5°	277.1	278.8	279.2	283.0	282.6
15°	272.1	275.0	275.9	279.6	279.6
17.5°	266.2	270.0	272.1	275.9	275.9
20°	260.0	264.2	267.1	271.7	272.1
22.5°	252.4	258.3	261.6	267.1	267.5
25°	244.9	251.2	256.2	262.1	263.3
27.5°	236.9	244.1	250.3	257.0	259.1
30°	227.7	235.7	244.1	252.0	254.9
32.5°	218.9	228.2	237.4	247.4	251.2
35°	208.9	219.8	230.7	242.8	246.6
37.5°	199.3	211.0	224.0	237.8	242.4
40°	188.8	202.2	217.7	233.2	238.2
42.5°	179.2	193.0	211.8	227.7	233.6
45°	168.7	184.6	205.1	222.7	228.6
47.5°	158.2	175.4	198.8	216.9	223.5
50°	148.2	166.2	191.7	211.4	218.1
52.5°	137.3	157.8	184.6	204.7	211.8
55°	126.8	148.2	177.9	198.4	205.5
57.5°	116.0	140.2	170.0	191.7	198.4
60°	106.8	131.0	162.0	184.2	191.3
62.5°	96.3	122.2	154.5	176.2	183.8
65°	86.7	113.4	146.1	168.7	175.4
67.5°	75.8	104.7	138.1	160.3	167.0
70°	66.1	95.9	129.8	152.0	158.7
72.5°	56.5	87.5	121.4	144.0	150.7
75°	46.5	78.3	113.0	135.2	141.9
77.5°	37.7	69.9	104.7	126.8	133.5
80°	28.5	61.5	97.1	118.9	125.2
82.5°	20.9	54.0	89.2	110.9	116.8
85°	13.8	46.9	82.1	103.0	109.3
87.5°	8.0	40.6	74.9	95.9	101.7
90°	3.3	35.2	68.7	89.2	95.0
92.5°	2.5	31.8	64.9	84.6	90.4
95°	2.5	28.0	59.9	79.1	85.0
97.5°	2.1	24.7	55.3	74.1	79.5
100°	1.7	21.8	51.5	69.5	74.9
102.5°	1.7	19.3	47.3	64.9	70.3
105°	1.3	16.7	44.0	60.7	65.7
107.5°	1.3	14.2	40.2	56.9	62.0
110°	0.8	12.1	36.8	53.2	58.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.8	10.0	33.5	49.4	54.0
115°	0.8	8.0	30.1	45.6	50.2
117.5°	0.4	5.9	27.2	41.9	46.5
120°	0.4	4.2	24.3	38.1	42.7
122.5°	0.4	2.1	20.9	34.7	39.4
125°	0.4	0.8	18.4	31.4	35.6
127.5°	0.0	0.0	15.5	27.6	31.8
130°	0.0	0.0	12.6	24.3	28.0
132.5°	0.0	0.0	10.0	20.9	24.3
135°	0.0	0.0	7.1	17.6	20.9
137.5°	0.0	0.0	4.6	14.2	17.6
140°	0.0	0.0	2.1	10.9	13.8
142.5°	0.0	0.0	0.4	8.0	10.5
145°	0.0	0.0	0.0	4.6	7.5
147.5°	0.0	0.0	0.0	1.7	4.2
150°	0.0	0.0	0.0	0.0	1.3
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)