

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P930420

Luminaire Tested: DFN2DS-PN2F0-020DS835-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930420
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-PN2F0-020DS835-RLL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

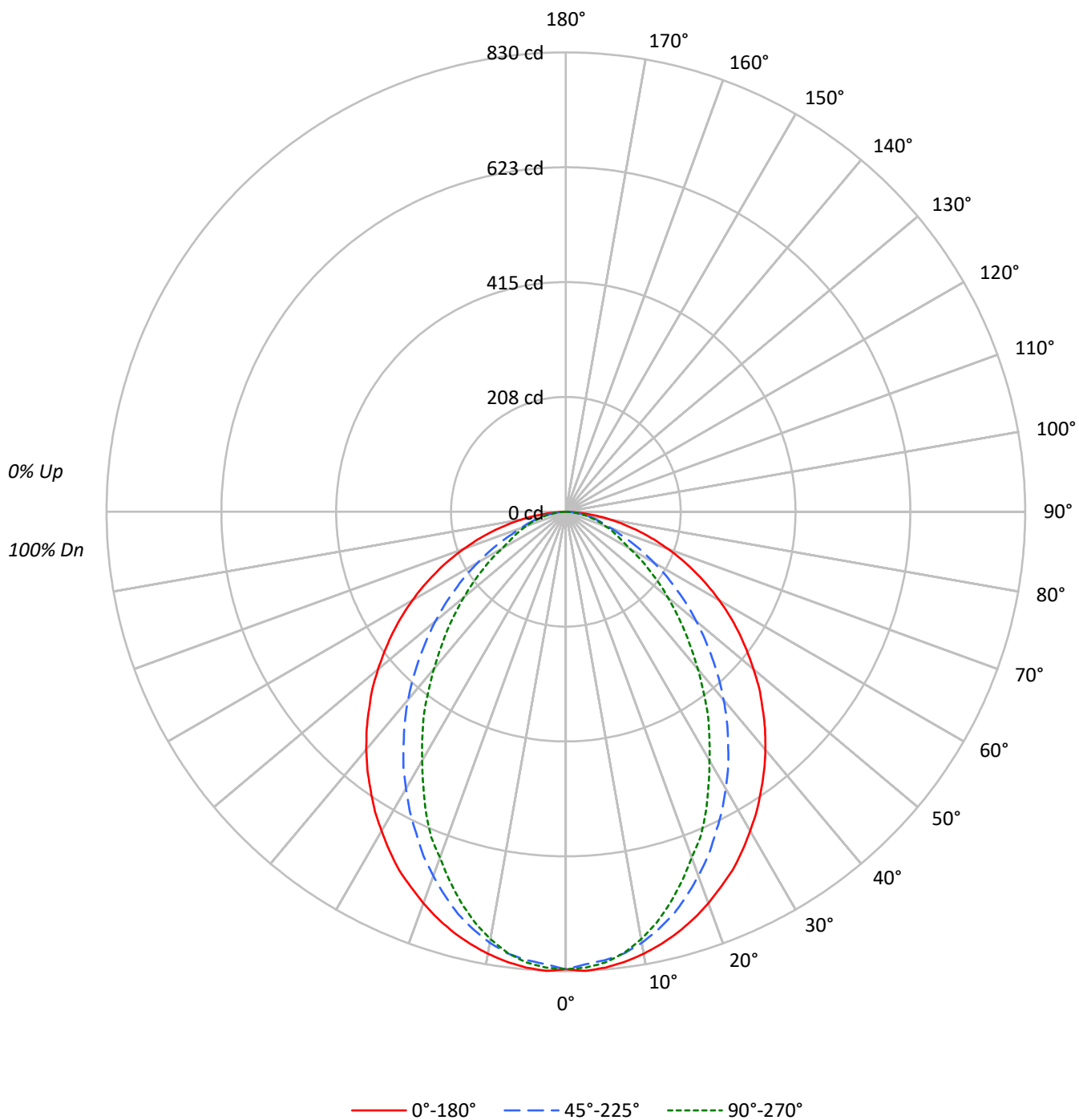
Lumens per Lamp: N/A
Luminaire Lumens: 1700.0 lumens
Efficiency: N/A
Efficacy: 88.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.29' x L: 2.17' x H: 0')
CIE Type: Direct

Input Watts (W): 19.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1790	1790	1790
5°	1797	1768	1778
10°	1783	1739	1724
15°	1763	1687	1639
20°	1734	1614	1533
25°	1706	1530	1430
30°	1665	1444	1298
35°	1626	1351	1183
40°	1586	1254	1049
45°	1540	1146	928
50°	1492	1036	809
55°	1443	918	695
60°	1387	794	577
65°	1323	667	525
70°	1246	549	483
75°	1151	500	451
80°	1017	448	410
85°	798	353	353

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1540 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.5	4.6
10°-20°	212.7	12.5
20°-30°	298.6	17.6
30°-40°	325.5	19.1
40°-50°	299.1	17.6
50°-60°	234.9	13.8
60°-70°	152.9	9.0
70°-80°	78.7	4.6
80°-90°	20.1	1.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	588.7	34.6
0°-40°	914.2	53.8
0°-60°	1448.3	85.2
0°-90°	1700.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1700.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	827	827	827	827	827	
5°	827	823	813	820	818	78
15°	786	778	752	738	731	222
25°	714	690	640	610	598	328
35°	615	577	511	464	447	385
45°	503	452	374	321	303	388
55°	382	324	243	198	184	342
65°	258	198	130	105	102	256
75°	138	85	60	55	54	146
85°	32	16	14	14	14	39
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	826.6	826.6	826.6	826.6	826.6
2.5°	830.3	826.6	818.3	825.9	824.4
5°	826.6	822.9	813.1	819.9	817.6
7.5°	819.9	815.4	804.9	807.9	804.1
10°	810.9	805.6	790.7	788.4	784.0
12.5°	799.7	792.9	772.7	768.3	760.0
15°	786.2	777.9	752.5	738.3	730.9
17.5°	770.5	758.5	727.1	710.6	698.7
20°	752.5	737.5	700.2	681.5	665.0
22.5°	733.1	715.9	672.5	647.1	635.9
25°	713.7	689.7	640.3	609.7	598.4
27.5°	690.5	665.0	610.4	575.2	558.0
30°	665.8	637.3	577.5	539.4	519.1
32.5°	641.8	607.4	546.1	501.2	482.5
35°	614.9	576.8	511.0	463.8	447.3
37.5°	588.7	547.5	478.0	426.4	407.7
40°	561.0	516.2	443.6	390.5	371.0
42.5°	532.6	484.8	409.2	353.8	335.2
45°	502.7	452.5	374.1	320.9	302.9
47.5°	474.3	421.2	340.4	287.2	270.8
50°	442.9	389.8	307.5	255.8	240.2
52.5°	412.1	356.0	276.0	226.7	212.5
55°	382.2	323.9	243.1	198.3	184.0
57.5°	351.6	291.7	214.0	172.1	160.1
60°	320.2	260.3	183.3	145.2	133.2
62.5°	289.5	229.7	157.1	121.2	115.2
65°	258.1	197.5	130.2	104.8	102.5
67.5°	228.2	167.5	104.8	92.0	89.8
70°	196.7	138.4	86.7	79.3	76.3
72.5°	166.8	111.4	72.5	66.6	65.1
75°	137.6	85.2	59.8	54.6	53.9
77.5°	108.5	60.6	47.1	44.1	42.6
80°	81.5	43.4	35.9	32.9	32.9
82.5°	56.8	29.2	24.7	23.2	23.2
85°	32.1	16.4	14.2	14.2	14.2
87.5°	12.0	6.0	6.0	5.2	5.2
90°	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	13.26	14.78	13.62	15.09	15.41	9.22	10.74	9.58	11.06	11.37
	3H	15.02	16.39	15.40	16.72	17.08	10.49	11.85	10.86	12.18	12.54
	4H	15.69	16.97	16.09	17.32	17.70	10.99	12.27	11.39	12.62	12.99
	6H	16.18	17.36	16.59	17.73	18.12	11.37	12.55	11.78	12.92	13.31
	8H	16.34	17.47	16.77	17.86	18.26	11.49	12.62	11.92	13.01	13.41
	12H	16.45	17.52	16.88	17.91	18.34	11.57	12.65	12.00	13.03	13.46
4H	2H	13.36	14.64	13.76	14.99	15.37	9.92	11.20	10.32	11.55	11.92
	3H	15.29	16.36	15.71	16.76	17.16	11.36	12.42	11.77	12.82	13.22
	4H	16.04	17.00	16.48	17.42	17.85	11.96	12.91	12.39	13.33	13.77
	6H	16.64	17.47	17.09	17.91	18.37	12.45	13.28	12.90	13.72	14.18
	8H	16.85	17.63	17.31	18.07	18.54	12.61	13.38	13.07	13.83	14.30
	12H	17.00	17.70	17.49	18.18	18.65	12.72	13.42	13.21	13.90	14.37
8H	4H	16.07	16.85	16.53	17.29	17.76	12.31	13.09	12.77	13.53	14.00
	6H	16.71	17.35	17.20	17.84	18.32	12.90	13.54	13.39	14.03	14.51
	8H	16.96	17.53	17.47	18.04	18.53	13.12	13.69	13.63	14.20	14.69
	12H	17.16	17.67	17.67	18.16	18.73	13.30	13.81	13.81	14.30	14.86
12H	4H	16.05	16.75	16.53	17.23	17.70	12.35	13.05	12.84	13.53	14.00
	6H	16.69	17.26	17.20	17.77	18.26	12.96	13.54	13.47	14.05	14.54
	8H	16.97	17.48	17.48	17.97	18.54	13.23	13.74	13.74	14.24	14.80