

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: P930422

Luminaire Tested: DFN2DS-PN2F0-020DS840-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930422
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-PN2F0-020DS840-RLL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

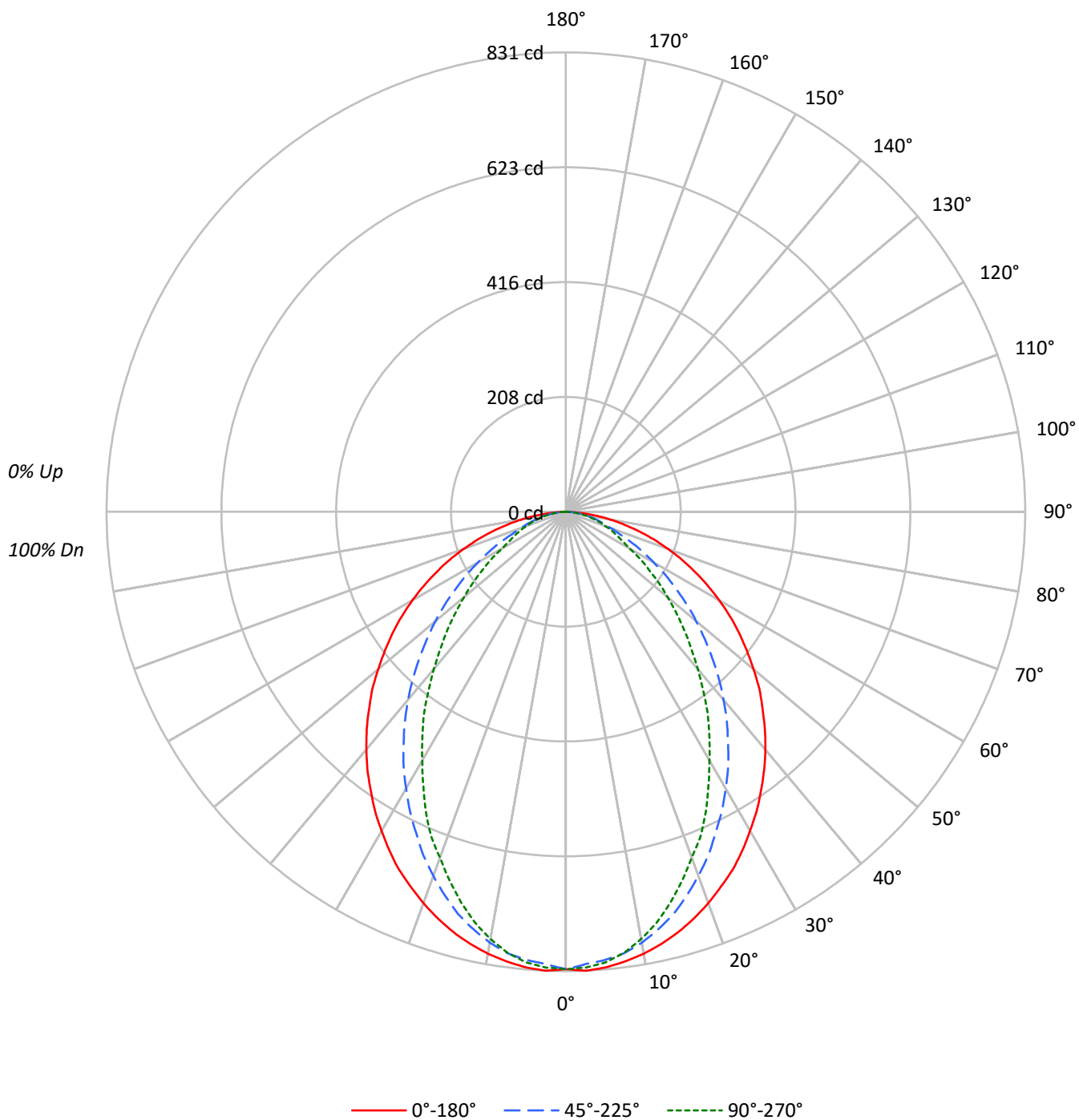
Lumens per Lamp: N/A
Luminaire Lumens: 1701.7 lumens
Efficiency: N/A
Efficacy: 88.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.29' x L: 2.17' x H: 0')
CIE Type: Direct

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°	1792	1792	1792
5°	1799	1770	1779
10°	1785	1741	1726
15°	1765	1689	1640
20°	1736	1615	1534
25°	1707	1532	1431
30°	1667	1446	1299
35°	1627	1352	1184
40°	1588	1255	1050
45°	1541	1147	929
50°	1494	1037	810
55°	1445	919	696
60°	1388	795	577
65°	1324	668	526
70°	1247	550	484
75°	1152	501	452
80°	1018	448	410
85°	798	353	353

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1541 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.5	4.6
10°-20°	212.9	12.5
20°-30°	298.9	17.6
30°-40°	325.8	19.1
40°-50°	299.4	17.6
50°-60°	235.2	13.8
60°-70°	153.1	9.0
70°-80°	78.8	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°	589.3	34.6
0°-40°	915.1	53.8
0°-60°	1449.7	85.2
0°-90°	1701.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1701.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	827	827	827	827	827	
5°	827	824	814	821	818	78
15°	787	779	753	739	732	222
25°	714	690	641	610	599	329
35°	616	577	512	464	448	385
45°	503	453	374	321	303	389
55°	383	324	243	198	184	342
65°	258	198	130	105	103	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°	827.4	827.4	827.4	827.4	827.4
2.5°	831.1	827.4	819.1	826.7	825.2
5°	827.4	823.7	813.9	820.7	818.4
7.5°	820.7	816.2	805.7	808.7	804.9
10°	811.7	806.4	791.5	789.2	784.8
12.5°	800.5	793.7	773.5	769.1	760.8
15°	787.0	778.7	753.3	739.0	731.6
17.5°	771.3	759.3	727.8	711.3	699.4
20°	753.3	738.2	700.9	682.2	665.7
22.5°	733.8	716.6	673.2	647.7	636.5
25°	714.4	690.4	640.9	610.3	599.0
27.5°	691.2	665.7	611.0	575.8	558.6
30°	666.5	637.9	578.1	539.9	519.6
32.5°	642.4	608.0	546.6	501.7	483.0
35°	615.5	577.4	511.5	464.3	447.7
37.5°	589.3	548.0	478.5	426.8	408.1
40°	561.6	516.7	444.0	390.9	371.4
42.5°	533.1	485.3	409.6	354.2	335.5
45°	503.2	453.0	374.5	321.2	303.2
47.5°	474.8	421.6	340.7	287.5	271.1
50°	443.3	390.2	307.8	256.1	240.4
52.5°	412.5	356.4	276.3	226.9	212.7
55°	382.6	324.2	243.3	198.5	184.2
57.5°	352.0	292.0	214.2	172.3	160.3
60°	320.5	260.6	183.5	145.3	133.3
62.5°	289.8	229.9	157.3	121.3	115.3
65°	258.4	197.7	130.3	104.9	102.6
67.5°	228.4	167.7	104.9	92.1	89.9
70°	196.9	138.5	86.8	79.4	76.4
72.5°	167.0	111.5	72.6	66.7	65.2
75°	137.7	85.3	59.9	54.7	54.0
77.5°	108.6	60.7	47.1	44.1	42.6
80°	81.6	43.4	35.9	32.9	32.9
82.5°	56.9	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	13.63	15.10	15.41	9.22	10.75	9.59	11.06	11.37
	3H	15.03	16.39	15.40	16.72	17.08	10.49	11.86	10.87	12.18	12.54
	4H	15.69	16.97	16.09	17.32	17.70	10.99	12.27	11.39	12.62	13.00
	6H	16.18	17.36	16.59	17.73	18.12	11.37	12.55	11.78	12.92	13.31
	8H	16.35	17.47	16.77	17.86	18.26	11.50	12.62	11.92	13.01	13.41
	12H	16.45	17.53	16.88	17.91	18.34	11.58	12.65	12.01	13.04	13.47
4H	2H	13.37	14.65	13.76	14.99	15.37	9.92	11.20	10.32	11.55	11.93
	3H	15.30	16.36	15.71	16.76	17.16	11.36	12.43	11.77	12.83	13.23
	4H	16.05	17.00	16.48	17.42	17.86	11.96	12.92	12.40	13.34	13.77
	6H	16.64	17.47	17.10	17.91	18.37	12.45	13.28	12.91	13.72	14.18
	8H	16.85	17.63	17.32	18.08	18.54	12.61	13.39	13.07	13.83	14.30
	12H	17.01	17.70	17.49	18.18	18.65	12.73	13.42	13.21	13.90	14.37
8H	4H	16.07	16.85	16.53	17.29	17.76	12.32	13.09	12.78	13.54	14.00
	6H	16.71	17.35	17.21	17.84	18.32	12.90	13.54	13.40	14.03	14.51
	8H	16.96	17.54	17.47	18.05	18.53	13.12	13.70	13.63	14.21	14.70
	12H	17.16	17.67	17.67	18.16	18.73	13.30	13.81	13.81	14.30	14.87
12H	4H	16.06	16.75	16.54	17.23	17.70	12.36	13.05	12.84	13.53	14.00
	6H	16.69	17.27	17.20	17.78	18.27	12.96	13.54	13.48	14.05	14.54
	8H	16.97	17.48	17.48	17.98	18.54	13.24	13.75	13.75	14.24	14.80