

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: P929802

Luminaire Tested: DFN2DS-4P2F0-020DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929802
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-4P2F0-020DS940-RLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

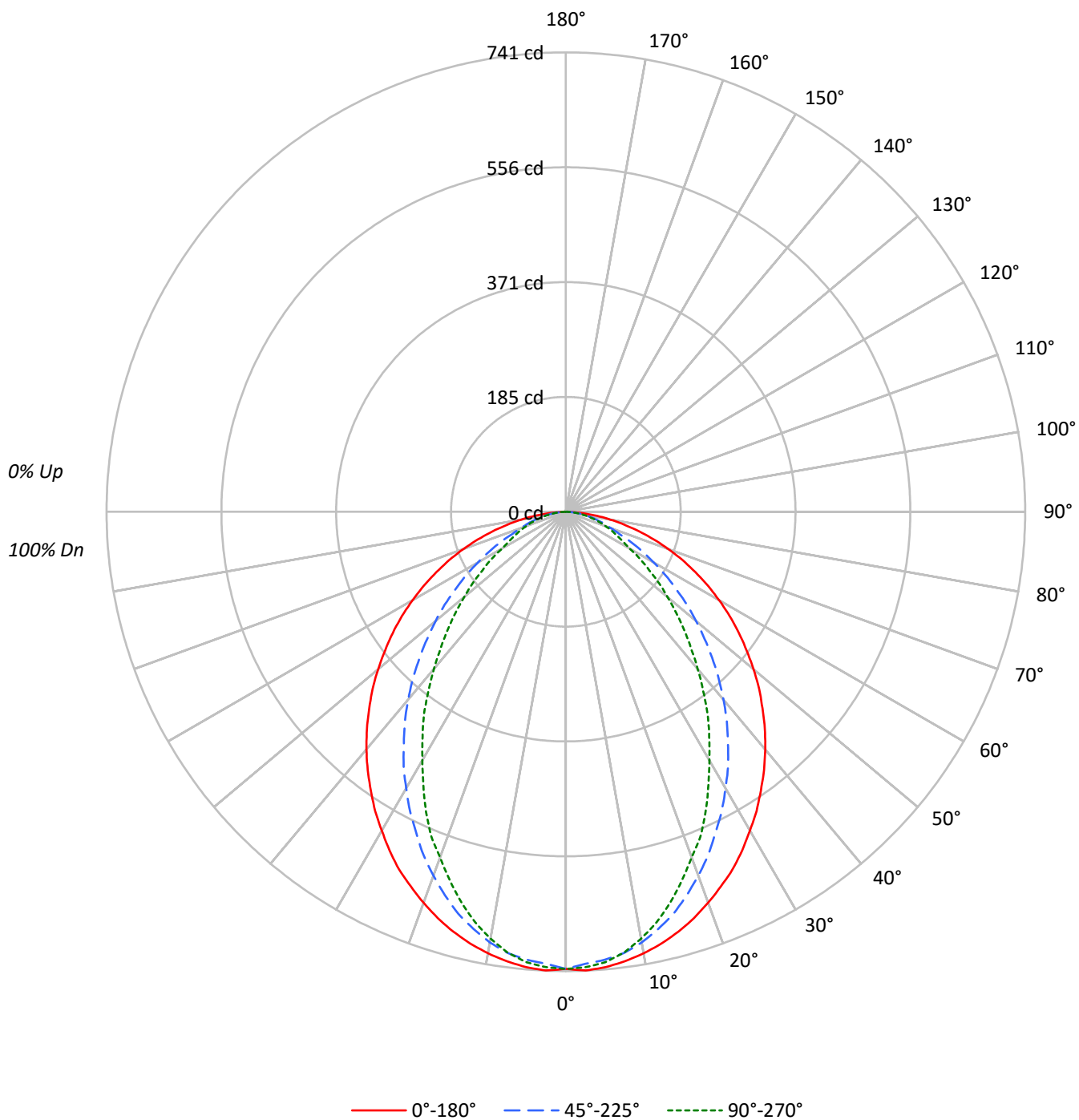
Lumens per Lamp: N/A
Luminaire Lumens: 1516.4 lumens
Efficiency: N/A
Efficacy: 78.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

Input Watts (W): 19.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9967
Total Harmonic Distortion (THDi): 0.063
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°	1846	1846	1846
5°	1853	1823	1833
10°	1839	1793	1778
15°	1818	1740	1690
20°	1789	1664	1581
25°	1759	1578	1475
30°	1717	1489	1339
35°	1677	1393	1220
40°	1636	1293	1082
45°	1588	1182	957
50°	1539	1069	835
55°	1488	946	716
60°	1430	819	595
65°	1364	688	542
70°	1285	566	499
75°	1187	516	465
80°	1048	461	423
85°	822	365	365

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1588 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.1	4.6
10°-20°	189.7	12.5
20°-30°	266.3	17.6
30°-40°	290.3	19.1
40°-50°	266.8	17.6
50°-60°	209.6	13.8
60°-70°	136.4	9.0
70°-80°	70.2	4.6
80°-90°	17.9	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°	525.1	34.6
0°-40°	815.5	53.8
0°-60°	1291.9	85.2
0°-90°	1516.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1516.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	737	737	737	737	737	
5°	737	734	725	731	729	70
15°	701	694	671	659	652	198
25°	637	615	571	544	534	293
35°	548	514	456	414	399	343
45°	448	404	334	286	270	346
55°	341	289	217	177	164	305
65°	230	176	116	94	91	228
75°	123	76	53	49	48	130
85°	29	15	13	13	13	34
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	737.3	737.3	737.3	737.3	737.3
2.5°	740.6	737.3	729.9	736.7	735.4
5°	737.3	734.0	725.3	731.4	729.3
7.5°	731.4	727.3	718.0	720.6	717.3
10°	723.3	718.6	705.3	703.3	699.3
12.5°	713.3	707.3	689.2	685.3	677.9
15°	701.3	693.9	671.2	658.6	652.0
17.5°	687.3	676.6	648.6	633.9	623.2
20°	671.2	657.8	624.6	607.9	593.2
22.5°	653.9	638.6	599.9	577.2	567.2
25°	636.6	615.2	571.1	543.9	533.8
27.5°	615.9	593.2	544.5	513.1	497.7
30°	593.9	568.5	515.1	481.1	463.0
32.5°	572.5	541.8	487.1	447.1	430.4
35°	548.5	514.5	455.8	413.7	399.0
37.5°	525.1	488.4	426.4	380.3	363.7
40°	500.4	460.5	395.7	348.3	330.9
42.5°	475.1	432.4	365.0	315.6	299.0
45°	448.4	403.6	333.7	286.2	270.2
47.5°	423.1	375.7	303.6	256.2	241.6
50°	395.1	347.7	274.3	228.2	214.3
52.5°	367.6	317.6	246.2	202.2	189.6
55°	340.9	288.9	216.8	176.9	164.1
57.5°	313.6	260.2	190.9	153.5	142.8
60°	285.6	232.2	163.5	129.5	118.8
62.5°	258.2	204.9	140.1	108.1	102.8
65°	230.2	176.2	116.1	93.5	91.4
67.5°	203.6	149.4	93.5	82.1	80.1
70°	175.5	123.5	77.3	70.7	68.1
72.5°	148.8	99.4	64.7	59.4	58.1
75°	122.7	76.0	53.3	48.7	48.1
77.5°	96.8	54.1	42.0	39.3	38.0
80°	72.7	38.7	32.0	29.3	29.3
82.5°	50.7	26.0	22.0	20.7	20.7
85°	28.6	14.6	12.7	12.7	12.7
87.5°	10.7	5.4	5.4	4.6	4.6
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	13.36	14.89	13.73	15.20	15.51	9.33	10.85	9.69	11.16	11.48
	3H	15.13	16.50	15.51	16.82	17.18	10.59	11.96	10.97	12.29	12.65
	4H	15.80	17.08	16.20	17.43	17.80	11.09	12.37	11.49	12.72	13.10
	6H	16.29	17.47	16.70	17.83	18.23	11.47	12.66	11.89	13.02	13.42
	8H	16.45	17.58	16.88	17.97	18.37	11.60	12.72	12.02	13.11	13.52
	12H	16.55	17.63	16.98	18.01	18.44	11.68	12.76	12.11	13.14	13.57
4H	2H	13.47	14.75	13.87	15.10	15.48	10.02	11.30	10.42	11.65	12.03
	3H	15.40	16.46	15.81	16.86	17.27	11.46	12.53	11.88	12.93	13.33
	4H	16.15	17.11	16.58	17.52	17.96	12.06	13.02	12.50	13.44	13.88
	6H	16.74	17.58	17.20	18.02	18.48	12.55	13.38	13.01	13.83	14.29
	8H	16.96	17.74	17.42	18.18	18.65	12.71	13.49	13.18	13.93	14.40
	12H	17.11	17.81	17.59	18.28	18.75	12.83	13.53	13.31	14.00	14.47
8H	4H	16.17	16.95	16.64	17.40	17.86	12.42	13.19	12.88	13.64	14.11
	6H	16.81	17.46	17.31	17.95	18.42	13.00	13.64	13.50	14.14	14.61
	8H	17.06	17.64	17.58	18.15	18.64	13.22	13.80	13.74	14.31	14.80
	12H	17.27	17.78	17.78	18.27	18.83	13.40	13.91	13.91	14.41	14.97
12H	4H	16.16	16.85	16.64	17.33	17.80	12.46	13.16	12.94	13.63	14.10
	6H	16.79	17.37	17.31	17.88	18.37	13.07	13.64	13.58	14.15	14.64
	8H	17.08	17.59	17.59	18.08	18.64	13.34	13.85	13.85	14.34	14.91

END OF REPORT