

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: P929946

Luminaire Tested: DFN2DS-4P4F0-030DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929946
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-4P4F0-030DS940-RLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

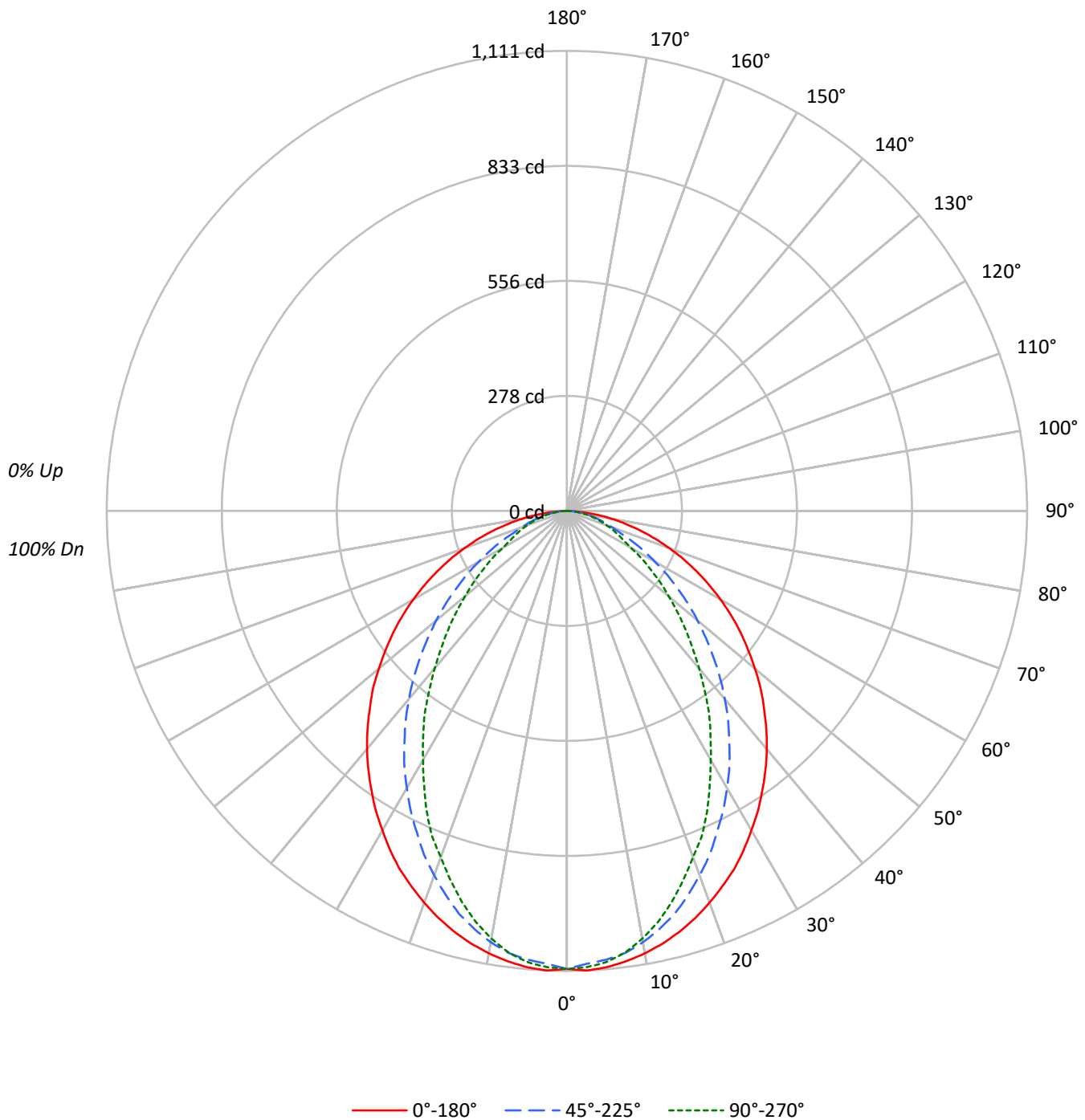
Lumens per Lamp: N/A
Luminaire Lumens: 2274.6 lumens
Efficiency: N/A
Efficacy: 80.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 28.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.983
Total Harmonic Distortion (THDi): 0.073
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P929946

CATALOG NUMBER: DFN2DS-4P4F0-030DS940-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P929946

CATALOG NUMBER: DFN2DS-4P4F0-030DS940-RLL

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°	718	718	718
5°	720	709	712
10°	715	697	691
15°	706	676	657
20°	695	647	614
25°	684	613	573
30°	667	579	520
35°	652	541	474
40°	636	503	420
45°	617	459	372
50°	598	415	324
55°	578	368	279
60°	556	318	231
65°	530	267	210
70°	499	220	193
75°	461	201	181
80°	408	179	165
85°	320	141	141

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 617 cd/sqm

TEST NUMBER: P929946

CATALOG NUMBER: DFN2DS-4P4F0-030DS940-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.7	4.6
10°-20°	284.6	12.5
20°-30°	399.5	17.6
30°-40°	435.5	19.1
40°-50°	400.3	17.6
50°-60°	314.3	13.8
60°-70°	204.6	9.0
70°-80°	105.3	4.6
80°-90°	26.9	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°	787.7	34.6
0°-40°	1223.2	53.8
0°-60°	1937.8	85.2
0°-90°	2274.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2274.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1106	1106	1106	1106	1106	
5°	1106	1101	1088	1097	1094	105
15°	1052	1041	1007	988	978	296
25°	955	923	857	816	801	439
35°	823	772	684	621	598	515
45°	673	606	500	429	405	519
55°	511	433	325	265	246	457
65°	345	264	174	140	137	342
75°	184	114	80	73	72	195
85°	43	22	19	19	19	52
90°	0	0	0	0	0	

TEST NUMBER: P929946

CATALOG NUMBER: DFN2DS-4P4F0-030DS940-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1106.0	1106.0	1106.0	1106.0	1106.0
2.5°	1111.0	1106.0	1094.9	1105.0	1103.0
5°	1106.0	1101.0	1088.0	1097.0	1093.9
7.5°	1097.0	1091.0	1077.0	1080.9	1075.9
10°	1084.9	1078.0	1058.0	1054.9	1049.0
12.5°	1070.0	1060.9	1033.9	1027.9	1016.9
15°	1051.9	1040.9	1006.9	987.9	977.9
17.5°	1030.9	1014.9	972.8	950.9	934.8
20°	1006.9	986.8	936.8	911.9	889.8
22.5°	980.9	957.8	899.8	865.8	850.8
25°	954.9	922.8	856.8	815.7	800.7
27.5°	923.8	889.8	816.7	769.7	746.6
30°	890.8	852.8	772.7	721.7	694.6
32.5°	858.7	812.7	730.7	670.6	645.5
35°	822.8	771.7	683.6	620.6	598.5
37.5°	787.7	732.6	639.6	570.4	545.5
40°	750.7	690.7	593.5	522.4	496.5
42.5°	712.6	648.7	547.5	473.4	448.4
45°	672.7	605.5	500.5	429.3	405.3
47.5°	634.6	563.6	455.5	384.3	362.3
50°	592.6	521.5	411.4	342.3	321.3
52.5°	551.4	476.4	369.4	303.3	284.3
55°	511.4	433.3	325.2	265.3	246.3
57.5°	470.4	390.3	286.3	230.2	214.2
60°	428.3	348.3	245.2	194.2	178.2
62.5°	387.4	307.3	210.2	162.2	154.2
65°	345.3	264.2	174.1	140.1	137.1
67.5°	305.3	224.2	140.1	123.1	120.1
70°	263.2	185.2	116.0	106.1	102.0
72.5°	223.2	149.1	97.0	89.1	87.1
75°	184.1	114.1	80.1	73.1	72.1
77.5°	145.1	81.0	63.1	59.1	57.0
80°	109.1	58.1	48.0	44.1	44.1
82.5°	76.0	39.1	33.0	31.0	31.0
85°	43.0	21.9	19.0	19.0	19.0
87.5°	16.1	7.9	7.9	7.0	7.0
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P929946

CATALOG NUMBER: DFN2DS-4P4F0-030DS940-RLL

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	10.08	11.60	10.45	11.92	12.23	6.04	7.56	6.41	7.88	8.19
	3H	11.85	13.21	12.22	13.54	13.90	7.31	8.67	7.68	9.00	9.36
	4H	12.51	13.79	12.91	14.14	14.52	7.81	9.09	8.21	9.44	9.82
	6H	13.00	14.18	13.41	14.55	14.94	8.19	9.37	8.60	9.74	10.13
	8H	13.17	14.29	13.59	14.68	15.08	8.31	9.44	8.74	9.83	10.23
	12H	13.27	14.35	13.70	14.73	15.16	8.40	9.47	8.83	9.86	10.28
4H	2H	10.18	11.46	10.58	11.81	12.19	6.74	8.02	7.14	8.37	8.74
	3H	12.12	13.18	12.53	13.58	13.98	8.18	9.24	8.59	9.64	10.04
	4H	12.87	13.82	13.30	14.24	14.68	8.78	9.74	9.21	10.15	10.59
	6H	13.46	14.29	13.92	14.73	15.19	9.27	10.10	9.73	10.54	11.00
	8H	13.67	14.45	14.14	14.90	15.36	9.43	10.21	9.89	10.65	11.12
	12H	13.83	14.52	14.31	15.00	15.47	9.55	10.24	10.03	10.72	11.19
8H	4H	12.89	13.67	13.36	14.11	14.58	9.13	9.91	9.60	10.36	10.82
	6H	13.53	14.17	14.03	14.66	15.14	9.72	10.36	10.22	10.85	11.33
	8H	13.78	14.36	14.29	14.87	15.35	9.94	10.52	10.46	11.03	11.52
	12H	13.98	14.49	14.49	14.99	15.55	10.12	10.63	10.63	11.12	11.69
12H	4H	12.88	13.57	13.36	14.05	14.52	9.18	9.87	9.66	10.35	10.82
	6H	13.51	14.09	14.02	14.60	15.09	9.78	10.36	10.30	10.87	11.36
	8H	13.79	14.30	14.30	14.80	15.36	10.06	10.57	10.57	11.06	11.62