

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: P929945

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

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929945
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-4P4F0-030DS940-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

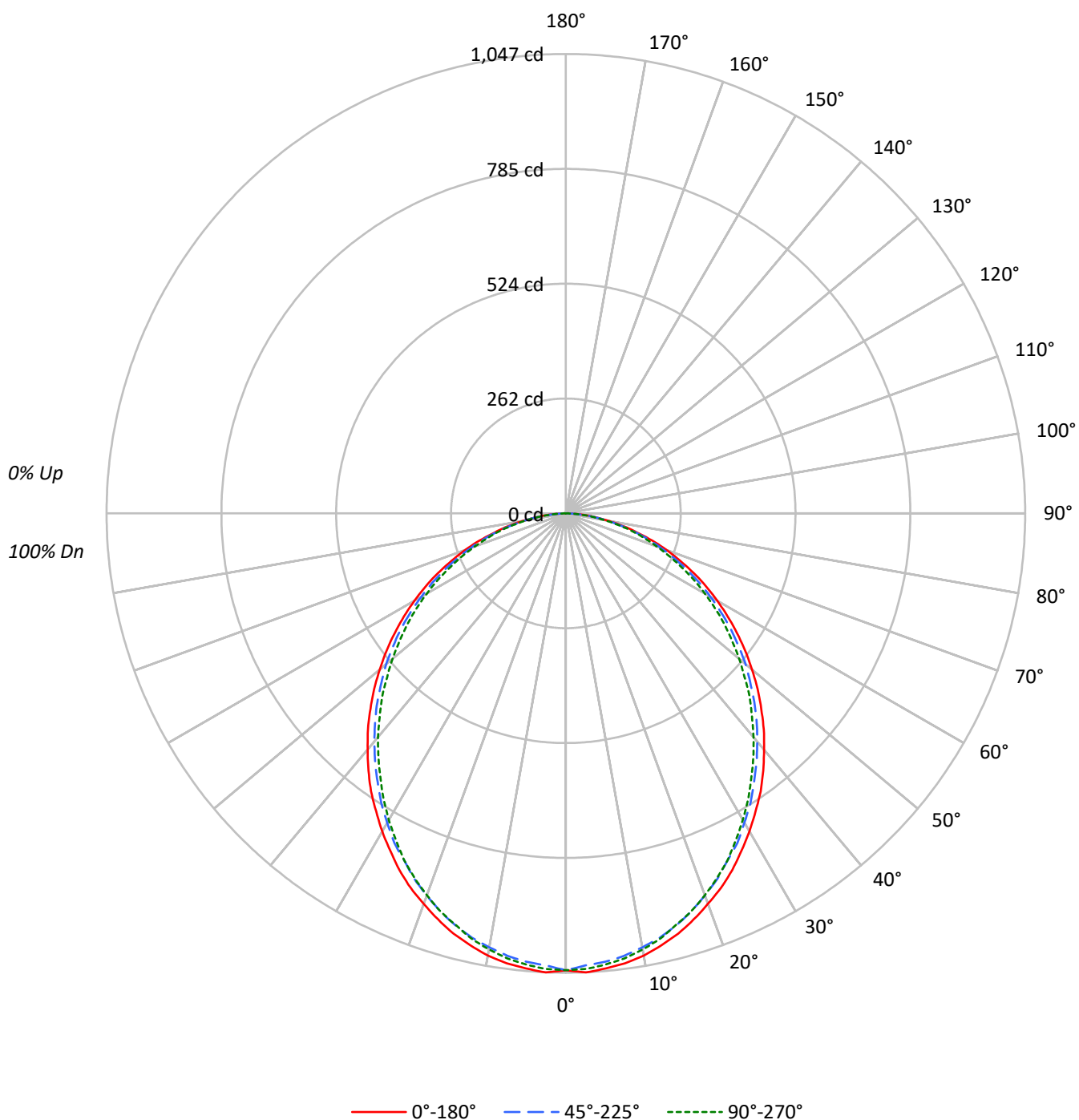
Lumens per Lamp: N/A
Luminaire Lumens: 2649.3 lumens
Efficiency: N/A
Efficacy: 93.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

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: P929945

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

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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	675	675	675
5°	678	668	672
10°	674	662	665
15°	666	653	652
20°	654	640	639
25°	642	624	624
30°	627	610	605
35°	613	592	584
40°	595	575	564
45°	578	558	544
50°	559	540	520
55°	539	519	499
60°	517	494	476
65°	494	469	447
70°	463	439	418
75°	421	404	394
80°	374	362	344
85°	305	291	261

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 578 cd/sqm

TEST NUMBER: P929945

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.0	3.7
10°-20°	275.7	10.4
20°-30°	405.2	15.3
30°-40°	470.6	17.8
40°-50°	470.1	17.7
50°-60°	409.9	15.5
60°-70°	303.0	11.4
70°-80°	171.4	6.5
80°-90°	45.3	1.7
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°	779.0	29.4
0°-40°	1249.6	47.2
0°-60°	2129.6	80.4
0°-90°	2649.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2649.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1041	1041	1041	1041	1041	
5°	1041	1037	1026	1034	1032	99
15°	991	985	972	976	971	279
25°	897	889	872	874	872	413
35°	774	764	748	742	737	483
45°	630	623	608	597	593	486
55°	477	471	459	447	442	426
65°	322	315	305	296	291	318
75°	168	166	161	155	157	180
85°	41	40	39	36	35	48
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1041.2	1041.2	1041.2	1041.2	1041.2
2.5°	1047.3	1042.3	1031.2	1041.2	1039.4
5°	1041.2	1037.3	1026.2	1034.3	1032.3
7.5°	1034.3	1028.3	1017.2	1025.4	1023.3
10°	1023.3	1016.3	1004.3	1012.2	1009.3
12.5°	1008.2	1002.3	990.3	995.2	993.2
15°	991.2	985.3	972.2	976.2	971.2
17.5°	970.1	964.3	951.1	956.1	951.1
20°	947.1	941.1	927.1	930.1	926.2
22.5°	924.2	915.2	902.1	902.1	900.0
25°	897.1	889.1	872.1	874.1	872.1
27.5°	867.0	860.0	847.0	844.1	839.1
30°	837.1	829.0	814.0	811.0	807.0
32.5°	805.0	799.1	783.0	776.9	772.9
35°	774.0	764.0	747.9	741.9	736.9
37.5°	738.9	729.9	713.9	706.8	701.8
40°	702.9	694.9	678.8	669.9	665.9
42.5°	667.8	659.8	643.8	633.8	627.8
45°	629.8	622.8	607.7	596.7	592.7
47.5°	592.7	585.8	569.7	558.7	552.7
50°	553.7	548.7	534.7	520.7	515.7
52.5°	515.7	508.6	495.7	484.6	477.6
55°	476.7	470.6	458.6	446.6	441.6
57.5°	437.5	432.5	419.5	407.5	403.5
60°	398.5	394.5	380.5	369.5	366.5
62.5°	360.5	353.4	343.4	333.4	329.4
65°	321.5	315.4	305.4	296.4	291.4
67.5°	281.4	276.3	267.3	260.4	256.4
70°	244.3	240.3	231.3	224.2	220.3
72.5°	206.3	202.2	197.2	190.3	187.3
75°	168.1	166.3	161.2	155.2	157.3
77.5°	134.2	130.1	128.1	125.1	122.2
80°	100.2	99.1	97.0	94.1	92.1
82.5°	68.1	68.1	67.2	63.1	63.1
85°	41.0	40.1	39.1	36.0	35.1
87.5°	18.0	16.1	14.0	11.1	10.0
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	9.92	11.53	10.28	11.84	12.16	9.48	11.09	9.84	11.40	11.71
	3H	11.67	13.12	12.05	13.45	13.81	11.18	12.63	11.56	12.96	13.32
	4H	12.32	13.68	12.71	14.03	14.41	11.82	13.19	12.22	13.54	13.91
	6H	12.78	14.05	13.20	14.42	14.81	12.28	13.55	12.70	13.92	14.31
	8H	12.93	14.14	13.35	14.53	14.93	12.43	13.64	12.85	14.03	14.42
	12H	13.02	14.18	13.45	14.56	14.99	12.51	13.67	12.94	14.05	14.48
4H	2H	10.48	11.85	10.88	12.20	12.57	10.13	11.50	10.53	11.84	12.22
	3H	12.45	13.60	12.86	14.00	14.40	12.05	13.19	12.46	13.59	13.99
	4H	13.23	14.27	13.66	14.68	15.12	12.81	13.84	13.24	14.26	14.69
	6H	13.83	14.73	14.28	15.17	15.63	13.40	14.30	13.85	14.74	15.20
	8H	14.02	14.86	14.48	15.31	15.77	13.58	14.43	14.04	14.87	15.33
	12H	14.15	14.91	14.63	15.39	15.85	13.70	14.46	14.18	14.93	15.40
8H	4H	13.50	14.35	13.97	14.79	15.26	13.13	13.98	13.59	14.42	14.89
	6H	14.22	14.92	14.71	15.41	15.89	13.84	14.54	14.33	15.03	15.50
	8H	14.48	15.11	14.99	15.62	16.10	14.09	14.72	14.60	15.22	15.71
	12H	14.68	15.24	15.19	15.73	16.29	14.27	14.82	14.77	15.31	15.87
12H	4H	13.53	14.29	14.01	14.77	15.24	13.17	13.93	13.65	14.40	14.87
	6H	14.26	14.90	14.77	15.40	15.89	13.90	14.53	14.41	15.03	15.52
	8H	14.58	15.14	15.09	15.63	16.19	14.20	14.76	14.71	15.25	15.81