

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: P929939

Luminaire Tested: DFN2DS-4P4F0-030DS927-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929939
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-4P4F0-030DS927-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

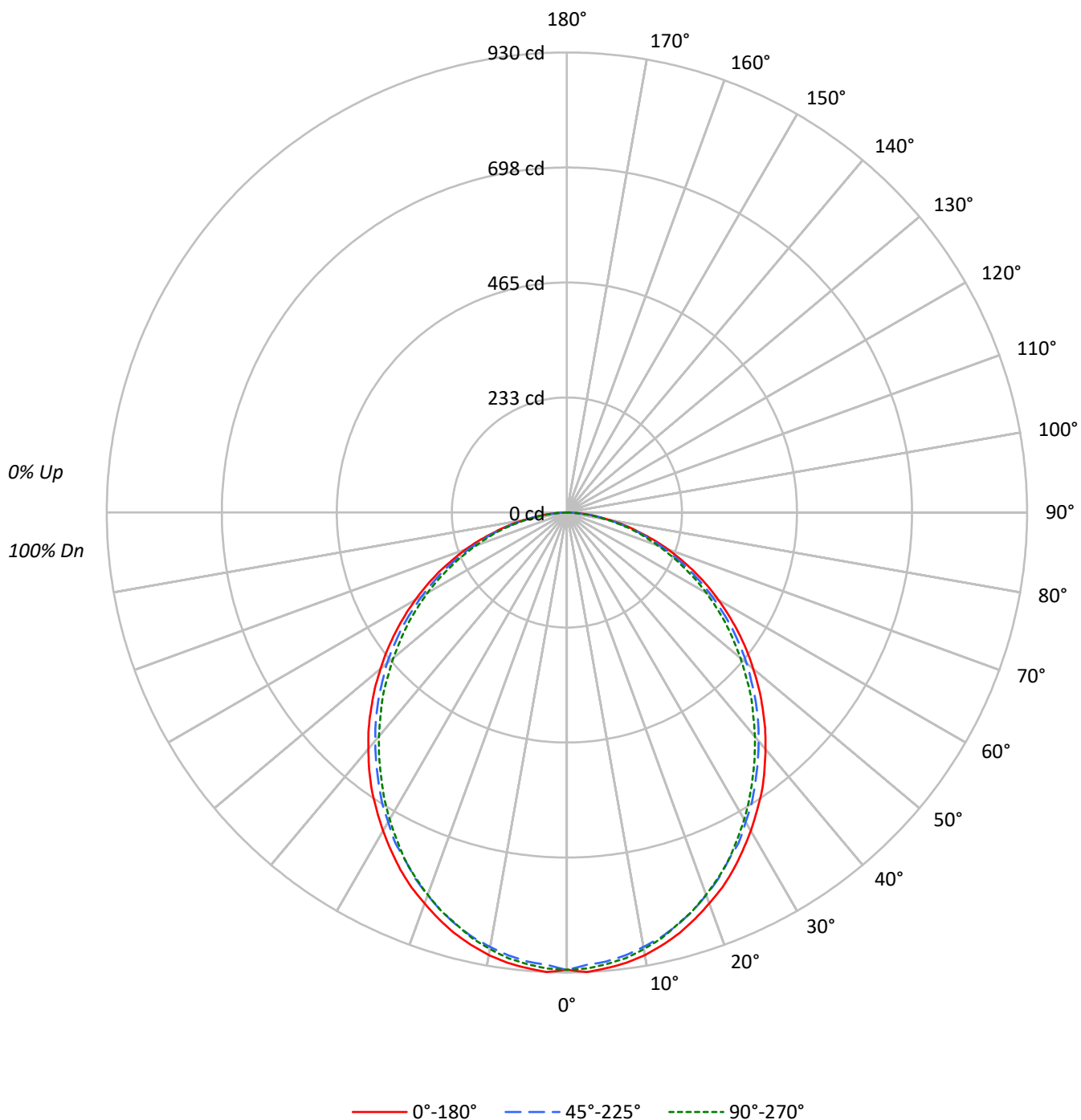
Lumens per Lamp: N/A
Luminaire Lumens: 2352.3 lumens
Efficiency: N/A
Efficacy: 83.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

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: P929939

CATALOG NUMBER: DFN2DS-4P4F0-030DS927-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°	600	600	600
5°	602	593	597
10°	599	587	590
15°	591	580	579
20°	581	568	568
25°	570	554	554
30°	557	541	537
35°	544	526	518
40°	529	510	501
45°	513	495	483
50°	496	479	462
55°	479	461	443
60°	459	438	422
65°	438	416	397
70°	411	390	371
75°	374	359	350
80°	332	322	306
85°	271	258	231

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 513 cd/sqm

TEST NUMBER: P929939

CATALOG NUMBER: DFN2DS-4P4F0-030DS927-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.0	3.7
10°-20°	244.8	10.4
20°-30°	359.8	15.3
30°-40°	417.9	17.8
40°-50°	417.4	17.7
50°-60°	363.9	15.5
60°-70°	269.0	11.4
70°-80°	152.2	6.5
80°-90°	40.2	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°	691.6	29.4
0°-40°	1109.5	47.2
0°-60°	1890.8	80.4
0°-90°	2352.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2352.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	924	924	924	924	924	
5°	924	921	911	918	917	88
15°	880	875	863	867	862	248
25°	796	790	774	776	774	367
35°	687	678	664	659	654	429
45°	559	553	540	530	526	432
55°	423	418	407	397	392	378
65°	285	280	271	263	259	282
75°	149	148	143	138	140	159
85°	36	36	35	32	31	43
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	924.5	924.5	924.5	924.5	924.5
2.5°	929.9	925.5	915.6	924.5	922.8
5°	924.5	921.0	911.2	918.3	916.6
7.5°	918.3	913.0	903.2	910.4	908.6
10°	908.6	902.3	891.7	898.8	896.1
12.5°	895.2	889.9	879.3	883.6	881.9
15°	880.1	874.8	863.2	866.8	862.3
17.5°	861.4	856.2	844.5	848.9	844.5
20°	840.9	835.6	823.2	825.8	822.3
22.5°	820.6	812.6	800.9	800.9	799.1
25°	796.5	789.5	774.3	776.1	774.3
27.5°	769.8	763.6	752.1	749.5	745.0
30°	743.2	736.1	722.8	720.1	716.5
32.5°	714.8	709.5	695.2	689.8	686.3
35°	687.2	678.3	664.1	658.7	654.3
37.5°	656.1	648.1	633.8	627.6	623.1
40°	624.1	617.0	602.7	594.8	591.2
42.5°	593.0	585.8	571.7	562.7	557.4
45°	559.2	553.0	539.6	529.8	526.3
47.5°	526.3	520.1	505.9	496.0	490.7
50°	491.6	487.2	474.7	462.3	457.9
52.5°	457.9	451.6	440.1	430.3	424.0
55°	423.2	417.9	407.2	396.6	392.1
57.5°	388.5	384.0	372.5	361.8	358.2
60°	353.8	350.3	337.9	328.0	325.4
62.5°	320.0	313.8	304.9	296.0	292.5
65°	285.4	280.1	271.2	263.2	258.7
67.5°	249.9	245.4	237.4	231.2	227.6
70°	216.9	213.4	205.4	199.1	195.6
72.5°	183.2	179.5	175.1	168.9	166.3
75°	149.3	147.6	143.1	137.8	139.6
77.5°	119.1	115.6	113.7	111.1	108.5
80°	88.9	88.0	86.2	83.6	81.8
82.5°	60.4	60.4	59.6	56.0	56.0
85°	36.4	35.6	34.7	32.0	31.1
87.5°	16.0	14.3	12.4	9.8	8.9
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	9.51	11.12	9.87	11.43	11.74	9.06	10.67	9.43	10.99	11.30
	3H	11.26	12.71	11.63	13.04	13.40	10.77	12.22	11.14	12.55	12.91
	4H	11.90	13.27	12.30	13.62	14.00	11.41	12.78	11.81	13.12	13.50
	6H	12.37	13.64	12.78	14.00	14.40	11.87	13.14	12.28	13.50	13.89
	8H	12.51	13.73	12.94	14.11	14.51	12.01	13.22	12.44	13.61	14.01
	12H	12.60	13.76	13.03	14.15	14.58	12.09	13.25	12.52	13.63	14.06
4H	2H	10.07	11.44	10.46	11.78	12.16	9.71	11.08	10.11	11.43	11.81
	3H	12.04	13.19	12.45	13.59	13.99	11.64	12.78	12.04	13.18	13.58
	4H	12.82	13.85	13.25	14.27	14.70	12.39	13.43	12.83	13.84	14.28
	6H	13.42	14.32	13.87	14.76	15.22	12.98	13.89	13.44	14.33	14.78
	8H	13.60	14.45	14.06	14.89	15.36	13.17	14.01	13.63	14.46	14.92
	12H	13.74	14.50	14.22	14.97	15.44	13.28	14.04	13.76	14.52	14.99
8H	4H	13.09	13.94	13.55	14.38	14.85	12.72	13.56	13.18	14.01	14.47
	6H	13.81	14.51	14.30	15.00	15.47	13.42	14.13	13.92	14.62	15.09
	8H	14.06	14.70	14.57	15.20	15.69	13.67	14.30	14.18	14.81	15.30
	12H	14.26	14.82	14.77	15.31	15.87	13.85	14.41	14.36	14.90	15.46
12H	4H	13.12	13.88	13.60	14.35	14.82	12.75	13.51	13.23	13.99	14.46
	6H	13.85	14.48	14.36	14.99	15.48	13.48	14.12	13.99	14.62	15.11
	8H	14.16	14.72	14.67	15.21	15.77	13.79	14.35	14.29	14.84	15.40