

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: P929959

Luminaire Tested: DFN2DS-4P4F0-040DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929959
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-4P4F0-040DS930-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

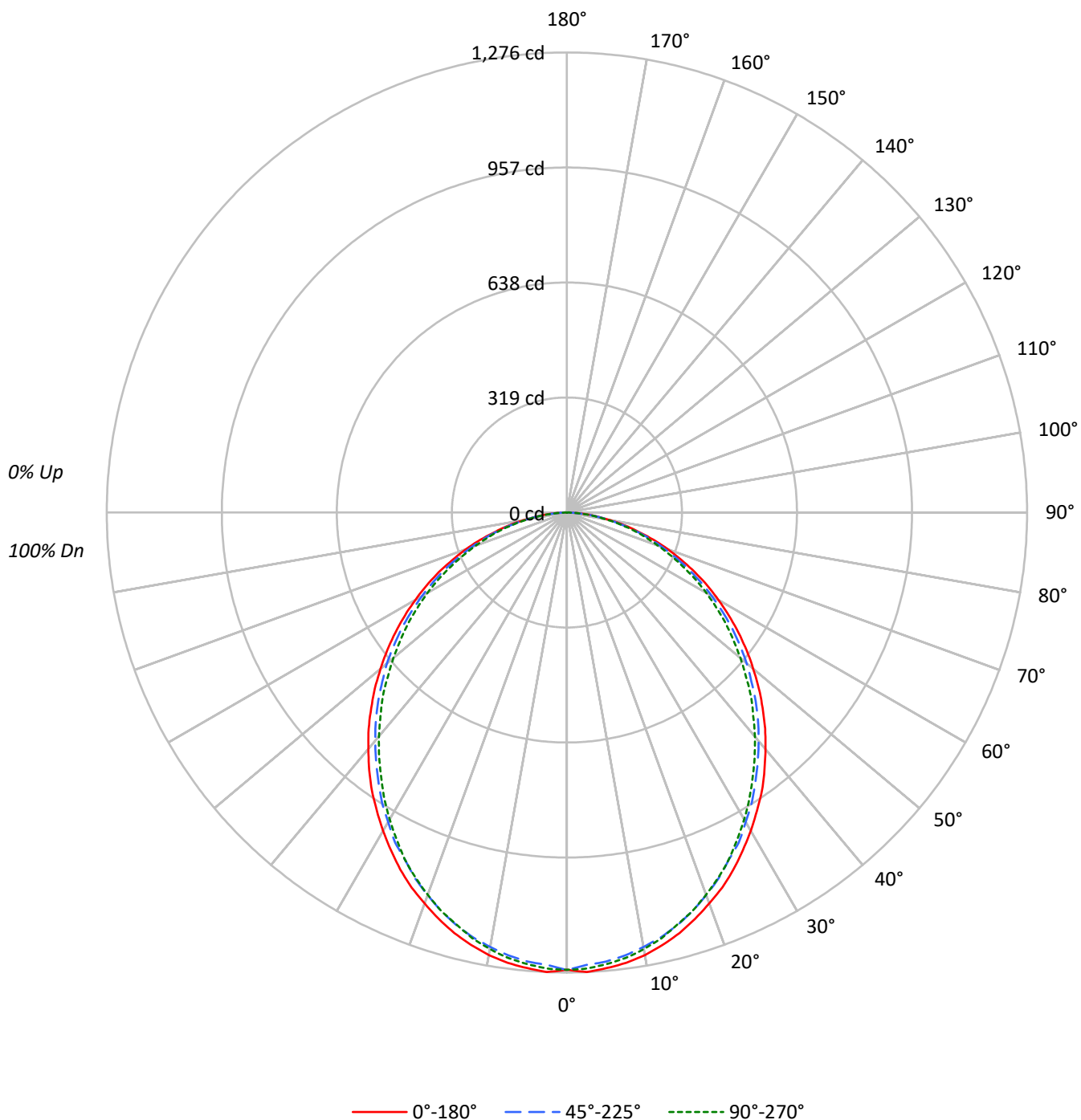
Lumens per Lamp: N/A
Luminaire Lumens: 3227.4 lumens
Efficiency: N/A
Efficacy: 82.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 39.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
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	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°	823	823	823
5°	826	814	819
10°	821	806	810
15°	811	795	795
20°	797	780	779
25°	782	760	760
30°	764	743	736
35°	747	722	711
40°	725	700	687
45°	704	679	662
50°	681	657	634
55°	657	632	609
60°	630	602	579
65°	601	571	545
70°	564	534	509
75°	514	492	480
80°	456	442	419
85°	372	354	318

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 704 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.4	3.7
10°-20°	335.9	10.4
20°-30°	493.7	15.3
30°-40°	573.4	17.8
40°-50°	572.7	17.7
50°-60°	499.3	15.5
60°-70°	369.1	11.4
70°-80°	208.8	6.5
80°-90°	55.1	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°	949.0	29.4
0°-40°	1522.3	47.2
0°-60°	2594.3	80.4
0°-90°	3227.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3227.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1268	1268	1268	1268	1268	
5°	1268	1264	1250	1260	1258	120
15°	1208	1200	1184	1189	1183	340
25°	1093	1083	1062	1065	1062	503
35°	943	931	911	904	898	589
45°	767	759	740	727	722	592
55°	581	573	559	544	538	519
65°	392	384	372	361	355	387
75°	205	202	196	189	192	219
85°	50	49	48	44	43	59
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1268.5	1268.5	1268.5	1268.5	1268.5
2.5°	1275.9	1269.8	1256.3	1268.5	1266.2
5°	1268.5	1263.7	1250.2	1259.9	1257.6
7.5°	1259.9	1252.7	1239.2	1249.1	1246.6
10°	1246.6	1238.1	1223.5	1233.2	1229.5
12.5°	1228.2	1221.0	1206.4	1212.5	1209.9
15°	1207.5	1200.3	1184.4	1189.2	1183.2
17.5°	1181.9	1174.7	1158.8	1164.8	1158.8
20°	1153.8	1146.5	1129.5	1133.1	1128.4
22.5°	1125.8	1114.8	1098.9	1098.9	1096.5
25°	1092.8	1083.1	1062.4	1064.8	1062.4
27.5°	1056.2	1047.7	1032.0	1028.3	1022.3
30°	1019.7	1009.9	991.7	988.0	983.1
32.5°	980.7	973.4	953.9	946.5	941.6
35°	942.9	930.7	911.2	903.8	897.7
37.5°	900.2	889.2	869.6	861.1	855.0
40°	856.3	846.5	826.9	816.1	811.2
42.5°	813.6	803.8	784.4	772.0	764.8
45°	767.2	758.8	740.3	727.1	722.1
47.5°	722.1	713.5	694.1	680.6	673.4
50°	674.5	668.4	651.3	634.2	628.1
52.5°	628.1	619.6	603.8	590.4	581.8
55°	580.7	573.3	558.7	544.0	538.0
57.5°	533.0	527.0	511.0	496.4	491.5
60°	485.4	480.6	463.6	450.1	446.5
62.5°	439.1	430.6	418.4	406.2	401.3
65°	391.6	384.2	372.0	361.0	355.0
67.5°	342.8	336.6	325.8	317.2	312.3
70°	297.6	292.7	281.7	273.2	268.4
72.5°	251.3	246.4	240.3	231.8	228.1
75°	204.9	202.5	196.3	189.1	191.5
77.5°	163.4	158.5	156.1	152.4	148.8
80°	122.0	120.7	118.3	114.7	112.2
82.5°	83.0	83.0	81.8	76.9	76.9
85°	50.0	48.8	47.6	43.8	42.7
87.5°	22.0	19.6	17.1	13.4	12.1
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	10.61	12.22	10.97	12.53	12.84	10.16	11.77	10.53	12.09	12.40
	3H	12.36	13.81	12.73	14.14	14.50	11.86	13.32	12.24	13.65	14.01
	4H	13.00	14.37	13.40	14.72	15.09	12.51	13.88	12.91	14.22	14.60
	6H	13.47	14.74	13.88	15.10	15.49	12.97	14.24	13.38	14.60	14.99
	8H	13.61	14.82	14.04	15.21	15.61	13.11	14.32	13.54	14.71	15.11
	12H	13.70	14.86	14.13	15.25	15.67	13.19	14.35	13.62	14.73	15.16
4H	2H	11.17	12.54	11.56	12.88	13.26	10.81	12.18	11.21	12.53	12.91
	3H	13.14	14.29	13.55	14.68	15.08	12.73	13.88	13.14	14.28	14.68
	4H	13.92	14.95	14.35	15.37	15.80	13.49	14.53	13.92	14.94	15.38
	6H	14.51	15.42	14.97	15.86	16.32	14.08	14.99	14.54	15.43	15.88
	8H	14.70	15.55	15.16	15.99	16.46	14.27	15.11	14.73	15.55	16.02
	12H	14.84	15.60	15.32	16.07	16.54	14.38	15.14	14.86	15.62	16.09
8H	4H	14.19	15.04	14.65	15.48	15.95	13.82	14.66	14.28	15.11	15.57
	6H	14.90	15.61	15.40	16.10	16.57	14.52	15.23	15.02	15.71	16.19
	8H	15.16	15.79	15.67	16.30	16.79	14.77	15.40	15.28	15.91	16.40
	12H	15.36	15.92	15.87	16.41	16.97	14.95	15.51	15.46	16.00	16.56
12H	4H	14.22	14.98	14.70	15.45	15.92	13.85	14.61	14.33	15.09	15.56
	6H	14.95	15.58	15.46	16.09	16.57	14.58	15.21	15.09	15.72	16.21
	8H	15.26	15.82	15.77	16.31	16.87	14.89	15.44	15.39	15.93	16.50