

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: P931238

Luminaire Tested: DFN2DS-TR2F0-020DS930-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931238
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-TR2F0-020DS930-RLL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

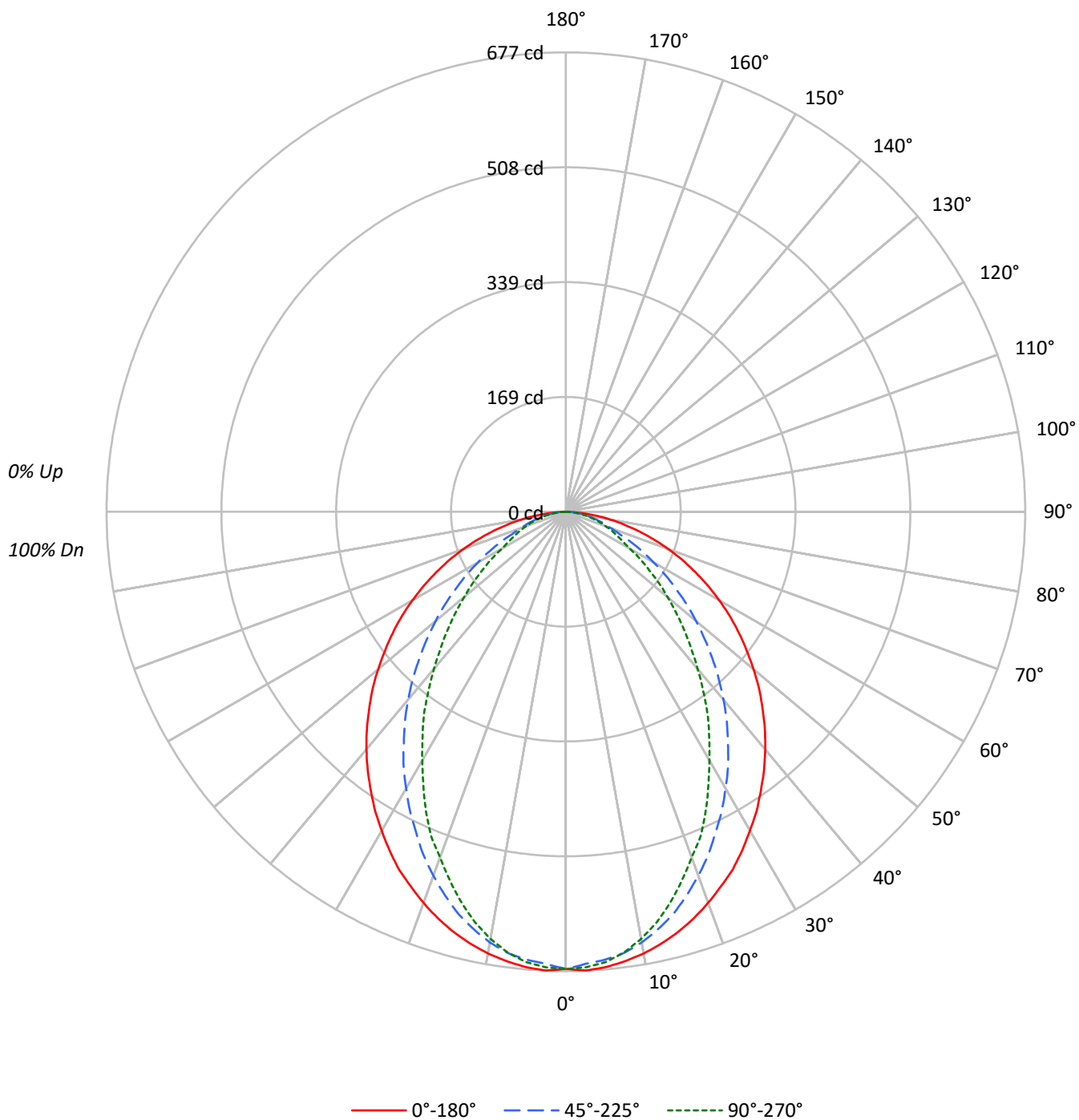
Lumens per Lamp: N/A
Luminaire Lumens: 1385.5 lumens
Efficiency: N/A
Efficacy: 78.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.36' x L: 2.04' x H: 0')
CIE Type: Direct

Input Watts (W): 17.6
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	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°	1503	1503	1503
5°	1508	1484	1492
10°	1497	1459	1447
15°	1480	1416	1376
20°	1456	1355	1286
25°	1432	1284	1200
30°	1397	1212	1090
35°	1364	1134	992
40°	1331	1053	880
45°	1292	962	779
50°	1253	870	679
55°	1211	770	583
60°	1164	666	484
65°	1110	560	441
70°	1045	461	406
75°	966	420	378
80°	853	376	344
85°	670	297	297

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1292 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.1	4.6
10°-20°	173.3	12.5
20°-30°	243.3	17.6
30°-40°	265.3	19.1
40°-50°	243.8	17.6
50°-60°	191.5	13.8
60°-70°	124.6	9.0
70°-80°	64.1	4.6
80°-90°	16.4	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°	479.8	34.6
0°-40°	745.1	53.8
0°-60°	1180.4	85.2
0°-90°	1385.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1385.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	674	674	674	674	674	
5°	674	671	663	668	666	64
15°	641	634	613	602	596	181
25°	582	562	522	497	488	268
35°	501	470	416	378	364	314
45°	410	369	305	262	247	316
55°	312	264	198	162	150	278
65°	210	161	106	85	84	209
75°	112	69	49	44	44	119
85°	26	13	12	12	12	31
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	673.7	673.7	673.7	673.7	673.7
2.5°	676.7	673.7	666.9	673.1	671.9
5°	673.7	670.7	662.7	668.2	666.3
7.5°	668.2	664.6	656.0	658.4	655.3
10°	660.9	656.6	644.4	642.5	639.0
12.5°	651.8	646.2	629.8	626.2	619.4
15°	640.8	634.0	613.3	601.7	595.7
17.5°	628.0	618.2	592.6	579.1	569.4
20°	613.3	601.1	570.7	555.4	542.0
22.5°	597.5	583.5	548.1	527.4	518.3
25°	581.7	562.1	521.8	496.9	487.7
27.5°	562.8	542.0	497.5	468.8	454.8
30°	542.6	519.4	470.7	439.6	423.1
32.5°	523.1	495.0	445.1	408.5	393.2
35°	501.1	470.1	416.5	378.0	364.5
37.5°	479.8	446.2	389.6	347.5	332.3
40°	457.2	420.7	361.5	318.3	302.4
42.5°	434.1	395.1	333.5	288.3	273.2
45°	409.7	368.8	304.9	261.5	246.9
47.5°	386.6	343.3	277.4	234.1	220.7
50°	361.0	317.7	250.6	208.5	195.8
52.5°	335.9	290.1	224.9	184.8	173.2
55°	311.5	264.0	198.1	161.6	150.0
57.5°	286.6	237.7	174.4	140.3	130.5
60°	261.0	212.1	149.4	118.3	108.6
62.5°	235.9	187.2	128.0	98.8	93.9
65°	210.4	161.0	106.1	85.4	83.5
67.5°	186.0	136.5	85.4	75.0	73.2
70°	160.3	112.8	70.7	64.6	62.2
72.5°	135.9	90.8	59.1	54.3	53.1
75°	112.1	69.4	48.7	44.5	43.9
77.5°	88.4	49.4	38.4	35.9	34.7
80°	66.4	35.4	29.3	26.8	26.8
82.5°	46.3	23.8	20.1	18.9	18.9
85°	26.2	13.4	11.6	11.6	11.6
87.5°	9.8	4.9	4.9	4.2	4.2
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	12.65	14.17	13.01	14.48	14.80	8.61	10.13	8.98	10.45	10.76
	3H	14.41	15.78	14.79	16.11	16.47	9.88	11.24	10.26	11.57	11.93
	4H	15.08	16.36	15.48	16.71	17.09	10.38	11.66	10.78	12.01	12.39
	6H	15.57	16.75	15.98	17.12	17.51	10.76	11.94	11.17	12.31	12.70
	8H	15.73	16.86	16.16	17.25	17.65	10.88	12.01	11.31	12.40	12.80
	12H	15.84	16.92	16.27	17.30	17.73	10.96	12.04	11.40	12.42	12.85
4H	2H	12.75	14.03	13.15	14.38	14.76	9.31	10.59	9.71	10.94	11.32
	3H	14.69	15.75	15.10	16.15	16.55	10.75	11.81	11.16	12.21	12.61
	4H	15.43	16.39	15.87	16.81	17.25	11.35	12.31	11.78	12.72	13.16
	6H	16.03	16.86	16.48	17.30	17.76	11.84	12.67	12.29	13.11	13.57
	8H	16.24	17.02	16.70	17.46	17.93	12.00	12.78	12.46	13.22	13.69
	12H	16.39	17.09	16.88	17.57	18.04	12.12	12.81	12.60	13.29	13.76
8H	4H	15.46	16.24	15.92	16.68	17.15	11.70	12.48	12.17	12.92	13.39
	6H	16.10	16.74	16.59	17.23	17.71	12.29	12.93	12.78	13.42	13.90
	8H	16.35	16.92	16.86	17.43	17.92	12.51	13.09	13.02	13.60	14.08
	12H	16.55	17.06	17.06	17.55	18.12	12.69	13.20	13.20	13.69	14.26
12H	4H	15.44	16.14	15.93	16.62	17.09	11.75	12.44	12.23	12.92	13.39
	6H	16.08	16.65	16.59	17.16	17.65	12.35	12.93	12.87	13.44	13.93
	8H	16.36	16.87	16.87	17.36	17.93	12.62	13.13	13.13	13.63	14.19