

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: P915173

Luminaire Tested: DFN2DIP-TR2F0-020D020US927-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915173
REPORT IS A COMBINATION OF REPORTS P901741 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-020D020US927-FLLONL
Description: 2 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

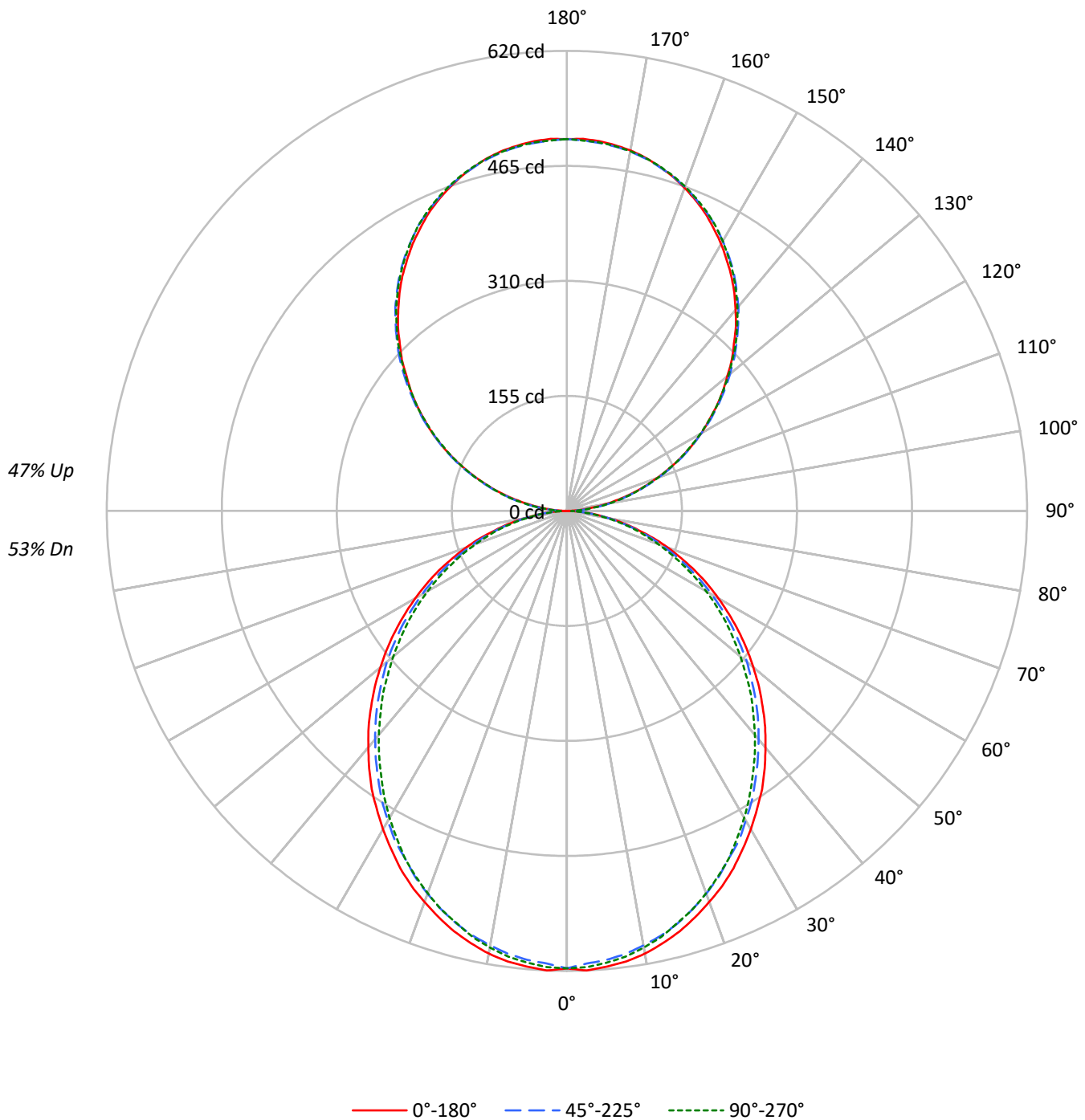
Lumens per Lamp: N/A
Luminaire Lumens: 2970.7 lumens
Efficiency: N/A
Efficacy: 97.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 30.5
Input Voltage (V): 120
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

TEST NUMBER: P915173

CATALOG NUMBER: DFN2DIP-TR2F0-020D020US927-FLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P915173

CATALOG NUMBER: DFN2DIP-TR2F0-020D020US927-FLLONL

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	108	108	108	108	100	100	100	100	85	85	85		71	71	71		59
1	98	94	90	87	91	87	84	81	74	72	70		63	61	59		52
2	90	82	76	71	83	76	71	66	65	61	58		55	52	50		46
3	82	72	65	59	75	67	61	55	58	53	49		49	45	42		41
4	75	64	56	50	69	60	52	47	51	46	41		43	39	36		36
5	69	57	49	43	63	53	46	40	46	40	36		39	35	31		33
6	63	51	43	37	58	48	40	35	41	36	31		35	31	27		30
7	59	46	38	33	54	43	36	31	37	32	28		32	28	24		27
8	54	42	34	29	50	39	32	27	34	29	24		29	25	22		25
9	51	38	31	26	47	36	29	24	31	26	22		27	23	19		23
10	47	35	28	23	44	33	26	22	29	23	20		25	21	18		21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1375	1375	1375
5°	1375	1353	1363
10°	1362	1332	1342
15°	1340	1307	1311
20°	1311	1273	1279
25°	1282	1233	1242
30°	1246	1197	1197
35°	1212	1154	1149
40°	1170	1110	1103
45°	1128	1066	1055
50°	1083	1020	1001
55°	1035	967	950
60°	980	904	892
65°	921	839	824
70°	845	758	750
75°	741	663	678
80°	614	541	548
85°	417	340	341

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1128 cd/sqm

TEST NUMBER: P915173

CATALOG NUMBER: DFN2DIP-TR2F0-020D020US927-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.0	2.0
10°-20°	163.3	5.5
20°-30°	239.9	8.1
30°-40°	278.7	9.4
40°-50°	278.3	9.4
50°-60°	242.7	8.2
60°-70°	179.4	6.0
70°-80°	101.5	3.4
80°-90°	28.2	0.9
90°-100°	31.0	1.0
100°-110°	98.5	3.3
110°-120°	168.6	5.7
120°-130°	221.7	7.5
130°-140°	248.9	8.4
140°-150°	244.1	8.2
150°-160°	204.7	6.9
160°-170°	135.8	4.6
170°-180°	47.5	1.6
0°-30°	461.2	15.5
0°-40°	739.9	24.9
0°-60°	1260.8	42.4
0°-90°	1570.0	52.8
90°-120°	298.1	10.0
90°-150°	1012.8	34.1
90°-180°	1401.0	47.2
0°-180°	2970.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	616	616	616	616	616	
5°	616	614	608	612	611	59
15°	587	583	576	578	575	165
25°	531	526	516	518	516	244
35°	458	452	443	439	436	286
45°	373	369	360	353	351	288
55°	282	279	272	264	261	252
65°	190	187	181	176	172	188
75°	100	98	95	92	93	106
85°	24	24	23	21	21	27
90°	0	6	15	14	14	3
95°	22	26	27	27	26	25
105°	91	92	93	94	94	96
115°	169	172	171	170	169	167
125°	246	250	249	247	247	220
135°	318	323	324	323	322	246
145°	386	389	392	392	391	241
155°	442	443	444	447	445	203
165°	481	480	480	483	481	136
175°	500	499	498	501	498	48
180°	501	501	501	501	501	

TEST NUMBER: P915173

CATALOG NUMBER: DFN2DIP-TR2F0-020D020US927-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	616.5	616.5	616.5	616.5	616.5
2.5°	620.0	617.1	610.5	616.5	615.4
5°	616.5	614.2	607.6	612.4	611.2
7.5°	612.4	608.8	602.3	607.0	605.9
10°	605.9	601.7	594.6	599.3	597.5
12.5°	596.9	593.4	586.3	589.2	588.0
15°	586.8	583.4	575.6	578.0	575.0
17.5°	574.4	570.9	563.2	566.1	563.2
20°	560.8	557.2	548.9	550.7	548.3
22.5°	547.2	541.9	534.1	534.1	532.9
25°	531.2	526.4	516.3	517.5	516.3
27.5°	513.3	509.2	501.5	499.8	496.8
30°	495.6	490.8	482.0	480.2	477.8
32.5°	476.6	473.1	463.6	460.0	457.6
35°	458.3	452.3	442.8	439.3	436.3
37.5°	437.5	432.1	422.6	418.5	415.5
40°	416.1	411.4	401.9	396.6	394.2
42.5°	395.4	390.6	381.2	375.3	371.7
45°	372.9	368.8	359.8	353.3	350.9
47.5°	350.9	346.8	337.3	330.7	327.3
50°	327.8	324.9	316.6	308.2	305.3
52.5°	305.3	301.1	293.4	286.9	282.8
55°	282.2	278.6	271.5	264.4	261.4
57.5°	259.0	256.1	248.3	241.3	238.8
60°	235.9	233.6	225.3	218.7	217.0
62.5°	213.4	209.2	203.4	197.4	195.0
65°	190.3	186.7	180.9	175.5	172.5
67.5°	166.6	163.6	158.3	154.2	151.8
70°	144.7	142.3	136.9	132.8	130.5
72.5°	122.2	119.8	116.8	112.6	110.9
75°	99.6	98.5	95.4	91.9	93.1
77.5°	79.5	77.1	75.8	74.1	72.3
80°	59.3	58.7	57.5	55.7	54.5
82.5°	40.3	40.3	39.8	37.4	37.4
85°	24.2	23.7	23.1	21.3	20.8
87.5°	10.7	9.5	8.3	6.6	5.9
90°	0.5	5.5	14.8	13.9	14.3
92.5°	9.3	12.7	13.2	13.6	13.6
95°	22.0	26.3	27.0	27.0	26.3
97.5°	36.7	40.6	42.3	42.3	42.3
100°	53.6	57.1	58.3	58.3	57.8
102.5°	71.5	74.0	75.7	76.1	75.7
105°	90.9	92.1	93.1	93.8	93.8
107.5°	110.3	112.1	112.1	112.4	110.3
110°	129.0	131.4	131.4	131.4	130.2

TEST NUMBER: P915173

CATALOG NUMBER: DFN2DIP-TR2F0-020D020US927-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	149.2	151.8	151.4	150.1	149.2
115°	169.2	171.6	170.9	170.4	169.2
117.5°	189.0	192.3	190.2	189.0	187.7
120°	208.9	212.2	208.9	208.9	207.6
122.5°	227.0	231.2	229.2	228.0	227.0
125°	246.1	249.9	248.7	247.3	246.8
127.5°	264.7	269.3	267.7	265.9	264.7
130°	282.0	287.5	286.7	285.8	284.2
132.5°	301.5	305.8	306.0	304.0	302.7
135°	318.3	323.0	323.8	323.4	322.2
137.5°	337.0	340.8	341.6	341.3	339.4
140°	353.5	357.3	359.4	359.4	357.7
142.5°	370.4	374.1	375.4	375.8	374.1
145°	386.4	389.4	391.9	392.3	390.6
147.5°	400.8	404.6	406.4	407.1	405.4
150°	415.6	418.1	419.8	421.1	419.8
152.5°	428.7	431.3	433.4	435.1	433.4
155°	441.9	443.1	444.4	446.6	445.2
157.5°	453.2	454.1	454.9	457.9	455.7
160°	463.3	464.2	464.7	467.2	465.4
162.5°	472.7	472.7	473.1	476.0	473.9
165°	480.7	480.2	480.2	483.2	481.2
167.5°	487.9	486.6	486.6	489.6	487.5
170°	493.4	492.2	491.7	494.7	492.2
172.5°	497.2	495.9	495.5	498.5	495.9
175°	500.2	499.0	498.0	501.1	498.5
177.5°	501.8	500.7	499.7	502.2	499.7
180°	501.1	501.1	501.1	501.1	501.1

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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	8.51	9.40	9.44	10.35	11.58	8.09	8.97	9.02	9.92	11.15
	3H	10.15	10.94	11.09	11.90	13.16	9.69	10.48	10.63	11.44	12.70
	4H	10.72	11.47	11.68	12.44	13.70	10.26	11.01	11.22	11.98	13.24
	6H	11.10	11.80	12.07	12.77	14.04	10.64	11.34	11.61	12.31	13.58
	8H	11.20	11.86	12.18	12.85	14.12	10.74	11.40	11.72	12.39	13.66
	12H	11.24	11.87	12.22	12.85	14.15	10.78	11.41	11.76	12.39	13.68
4H	2H	8.96	9.72	9.93	10.68	11.94	8.63	9.38	9.59	10.34	11.60
	3H	10.81	11.43	11.78	12.43	13.70	10.42	11.05	11.40	12.04	13.32
	4H	11.50	12.08	12.49	13.06	14.36	11.11	11.68	12.09	12.67	13.97
	6H	12.00	12.49	12.99	13.50	14.80	11.60	12.10	12.59	13.11	14.40
	8H	12.14	12.60	13.13	13.60	14.92	11.74	12.20	12.73	13.20	14.52
	12H	12.20	12.62	13.21	13.64	14.95	11.79	12.21	12.81	13.23	14.55
8H	4H	11.69	12.15	12.69	13.16	14.47	11.34	11.80	12.34	12.81	14.12
	6H	12.30	12.68	13.32	13.72	15.03	11.94	12.33	12.96	13.37	14.68
	8H	12.50	12.84	13.53	13.87	15.20	12.14	12.48	13.17	13.51	14.84
	12H	12.62	12.92	13.65	13.94	15.32	12.25	12.55	13.28	13.57	14.95
12H	4H	11.68	12.09	12.69	13.11	14.43	11.33	11.75	12.35	12.77	14.09
	6H	12.32	12.66	13.35	13.69	15.02	11.98	12.32	13.01	13.35	14.68
	8H	12.55	12.84	13.58	13.87	15.24	12.20	12.50	13.23	13.52	14.90