

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: P920734

Luminaire Tested: DFN2DIP-TR3F0-030D040US935-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920734
REPORT IS A COMBINATION OF REPORTS P900286 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-030D040US935-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

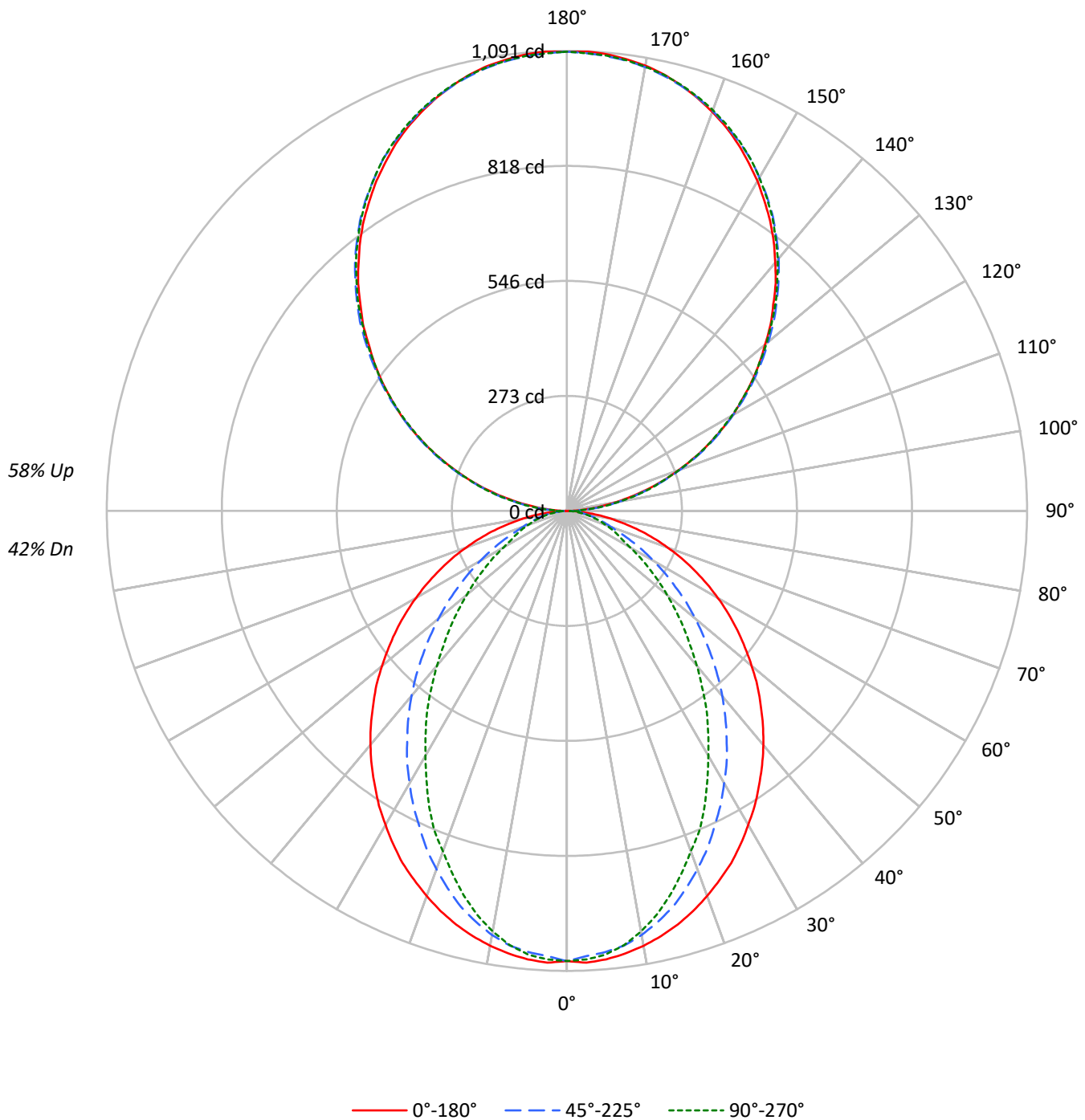
Lumens per Lamp: N/A
Luminaire Lumens: 5243.4 lumens
Efficiency: N/A
Efficacy: 98.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 53.5
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	30	10
RCR																	
0	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49
1	96	92	89	85	88	84	81	78	70	67	65	56	55	53	44	43	42
2	88	81	75	70	80	74	69	65	61	58	55	50	47	45	39	37	36
3	81	72	65	59	73	66	60	55	55	50	47	44	41	39	35	33	31
4	74	64	56	50	67	58	52	47	49	44	40	40	36	33	31	29	27
5	68	57	49	43	62	52	45	40	44	39	35	36	32	29	28	26	24
6	63	51	43	38	57	47	40	35	40	34	30	33	29	26	26	23	21
7	58	46	38	33	53	43	36	31	36	31	27	30	26	23	24	21	19
8	54	42	34	29	49	39	32	28	33	28	24	27	23	21	22	19	17
9	50	38	31	26	46	36	29	25	30	25	22	25	21	19	20	18	16
10	47	35	28	24	43	33	26	22	28	23	19	23	19	17	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1330	1330	1330
5°	1332	1308	1317
10°	1318	1281	1273
15°	1299	1238	1206
20°	1274	1178	1124
25°	1249	1112	1045
30°	1215	1044	945
35°	1182	971	857
40°	1148	896	756
45°	1109	812	665
50°	1069	728	576
55°	1026	638	491
60°	977	544	403
65°	920	449	362
70°	852	360	326
75°	765	315	295
80°	641	261	253
85°	436	169	185

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1109 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.1	1.9
10°-20°	274.7	5.2
20°-30°	385.6	7.4
30°-40°	420.3	8.0
40°-50°	386.3	7.4
50°-60°	303.4	5.8
60°-70°	197.5	3.8
70°-80°	101.7	1.9
80°-90°	29.0	0.6
90°-100°	67.4	1.3
100°-110°	214.2	4.1
110°-120°	366.5	7.0
120°-130°	482.0	9.2
130°-140°	541.0	10.3
140°-150°	530.5	10.1
150°-160°	445.0	8.5
160°-170°	295.1	5.6
170°-180°	103.2	2.0
0°-30°	760.3	14.5
0°-40°	1180.7	22.5
0°-60°	1870.4	35.7
0°-90°	2198.6	41.9
90°-120°	648.0	12.4
90°-150°	2201.5	42.0
90°-180°	3045.0	58.1
0°-180°	5243.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1068	1068	1068	1068	1068	
5°	1068	1063	1050	1059	1056	101
15°	1015	1005	972	954	944	286
25°	922	891	827	787	773	424
35°	794	745	660	599	578	497
45°	649	584	483	414	391	501
55°	494	418	314	256	238	441
65°	333	255	168	135	132	330
75°	178	110	77	70	70	188
85°	42	21	18	18	18	48
90°	1	12	32	30	31	5
95°	48	57	59	59	57	53
105°	198	200	202	204	204	209
115°	368	373	371	370	368	364
125°	535	543	540	538	537	478
135°	692	702	704	703	700	535
145°	840	846	852	853	849	525
155°	960	963	966	971	968	442
165°	1045	1044	1044	1050	1046	295
175°	1087	1085	1083	1089	1084	103
180°	1089	1089	1089	1089	1089	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1067.6	1067.6	1067.6	1067.6	1067.6
2.5°	1072.4	1067.6	1056.9	1066.6	1064.7
5°	1067.6	1062.7	1050.2	1058.9	1055.9
7.5°	1058.9	1053.1	1039.6	1043.4	1038.5
10°	1047.2	1040.5	1021.2	1018.2	1012.5
12.5°	1032.8	1024.1	998.0	992.2	981.5
15°	1015.4	1004.7	971.9	953.6	943.9
17.5°	995.1	979.6	939.0	917.8	902.3
20°	971.9	952.5	904.2	880.2	858.8
22.5°	946.8	924.5	868.5	835.7	821.2
25°	921.7	890.7	827.0	787.4	772.8
27.5°	891.7	858.8	788.3	743.0	720.7
30°	859.9	823.1	745.8	696.6	670.5
32.5°	828.9	784.5	705.3	647.3	623.1
35°	794.2	744.8	659.9	599.0	577.7
37.5°	760.3	707.1	617.3	550.6	526.6
40°	724.6	666.7	572.9	504.3	479.2
42.5°	687.9	626.1	528.5	456.9	432.8
45°	649.3	584.4	483.1	414.4	391.2
47.5°	612.5	544.0	439.6	370.9	349.7
50°	572.0	503.3	397.1	330.4	310.1
52.5°	532.3	459.9	356.5	292.7	274.4
55°	493.6	418.3	313.9	256.1	237.7
57.5°	454.1	376.8	276.4	222.2	206.7
60°	413.5	336.2	236.7	187.4	172.0
62.5°	373.9	296.6	202.9	156.5	148.9
65°	333.3	255.0	168.1	135.3	132.3
67.5°	294.7	216.4	135.3	118.8	115.9
70°	254.1	178.7	112.0	102.4	98.5
72.5°	215.4	143.9	93.7	86.0	84.0
75°	177.7	110.1	77.3	70.5	69.6
77.5°	140.1	78.2	60.9	57.0	55.0
80°	105.3	56.1	46.3	42.5	42.5
82.5°	73.4	37.7	31.9	30.0	30.0
85°	41.5	21.2	18.3	18.3	18.3
87.5°	15.5	7.7	7.7	6.8	6.8
90°	0.9	11.8	32.2	30.2	31.2
92.5°	20.3	27.6	28.6	29.5	29.5
95°	48.0	57.2	58.8	58.8	57.2
97.5°	79.8	88.3	92.0	92.0	92.0
100°	116.6	124.2	126.7	126.7	125.8
102.5°	155.3	160.9	164.5	165.5	164.5
105°	197.7	200.3	202.2	203.9	203.9
107.5°	239.7	243.7	243.7	244.3	239.7
110°	280.4	285.7	285.7	285.7	283.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	324.4	330.0	329.0	326.4	324.4
115°	367.7	373.1	371.3	370.4	367.7
117.5°	410.8	418.0	413.5	410.8	408.2
120°	454.2	461.3	454.2	454.2	451.2
122.5°	493.5	502.7	498.2	495.5	493.5
125°	534.9	543.1	540.5	537.5	536.6
127.5°	575.3	585.5	581.9	577.9	575.3
130°	613.0	624.9	623.3	621.3	617.7
132.5°	655.4	664.6	665.3	660.6	658.1
135°	691.9	702.1	704.0	703.0	700.4
137.5°	732.6	740.8	742.4	741.7	737.9
140°	768.4	776.6	781.2	781.2	777.6
142.5°	805.2	813.4	816.0	817.0	813.4
145°	840.0	846.5	851.8	852.8	849.2
147.5°	871.2	879.3	883.3	884.9	881.3
150°	903.4	909.0	912.6	915.5	912.6
152.5°	931.9	937.5	942.1	945.7	942.1
155°	960.4	963.1	966.0	970.7	967.7
157.5°	985.2	987.0	988.7	995.3	990.7
160°	1007.1	1009.1	1010.0	1015.6	1011.7
162.5°	1027.4	1027.4	1028.5	1034.7	1030.1
165°	1044.9	1043.9	1043.9	1050.4	1045.9
167.5°	1060.7	1057.6	1057.6	1064.3	1059.6
170°	1072.5	1069.8	1068.8	1075.4	1069.8
172.5°	1080.6	1078.1	1077.0	1083.7	1078.1
175°	1087.3	1084.6	1082.6	1089.2	1083.7
177.5°	1090.9	1088.2	1086.2	1091.8	1086.2
180°	1089.2	1089.2	1089.2	1089.2	1089.2

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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	7.28	8.05	8.31	9.08	10.47	3.26	4.03	4.29	5.06	6.44
	3H	8.95	9.63	9.99	10.67	12.08	4.44	5.12	5.48	6.17	7.57
	4H	9.54	10.20	10.60	11.24	12.65	4.88	5.53	5.93	6.57	7.99
	6H	9.96	10.55	11.02	11.60	13.03	5.19	5.79	6.25	6.84	8.26
	8H	10.08	10.65	11.14	11.71	13.13	5.28	5.85	6.35	6.91	8.33
	12H	10.13	10.67	11.20	11.73	13.17	5.32	5.86	6.39	6.92	8.36
4H	2H	7.29	7.94	8.35	8.99	10.40	3.84	4.49	4.90	5.54	6.95
	3H	9.10	9.65	10.17	10.72	12.14	5.18	5.72	6.24	6.79	8.22
	4H	9.79	10.28	10.86	11.34	12.79	5.72	6.21	6.79	7.28	8.72
	6H	10.29	10.71	11.37	11.80	13.24	6.13	6.55	7.21	7.64	9.08
	8H	10.46	10.85	11.54	11.93	13.39	6.25	6.65	7.33	7.73	9.18
	12H	10.54	10.90	11.64	12.00	13.46	6.31	6.67	7.41	7.76	9.22
8H	4H	9.75	10.15	10.83	11.22	12.68	5.99	6.39	7.07	7.46	8.92
	6H	10.30	10.63	11.40	11.75	13.20	6.50	6.82	7.60	7.94	9.40
	8H	10.51	10.80	11.62	11.90	13.37	6.68	6.97	7.79	8.07	9.55
	12H	10.64	10.89	11.75	11.99	13.50	6.80	7.05	7.91	8.15	9.66
12H	4H	9.70	10.06	10.79	11.15	12.61	5.99	6.35	7.09	7.44	8.90
	6H	10.28	10.56	11.39	11.67	13.14	6.54	6.83	7.65	7.93	9.41
	8H	10.49	10.74	11.60	11.84	13.35	6.75	7.00	7.86	8.10	9.61